

County Weld State Colorado

inner	5	---
	4 1/2	11.6

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Log ran as per customer request  
Depth referenced to Casing Tally reported Liner Top at 5663 FT  
Adjusted -15 FT to correlate with Liner Top  
Gauge Ring/Junk Basket ran to 5870 FT with no debris  
Log ran from as deep as possible in heel to Surface  
Recorded with 2800 PSI Surface Induced Pressure  
Logging tools were clean and free of any debris upon completion of operations

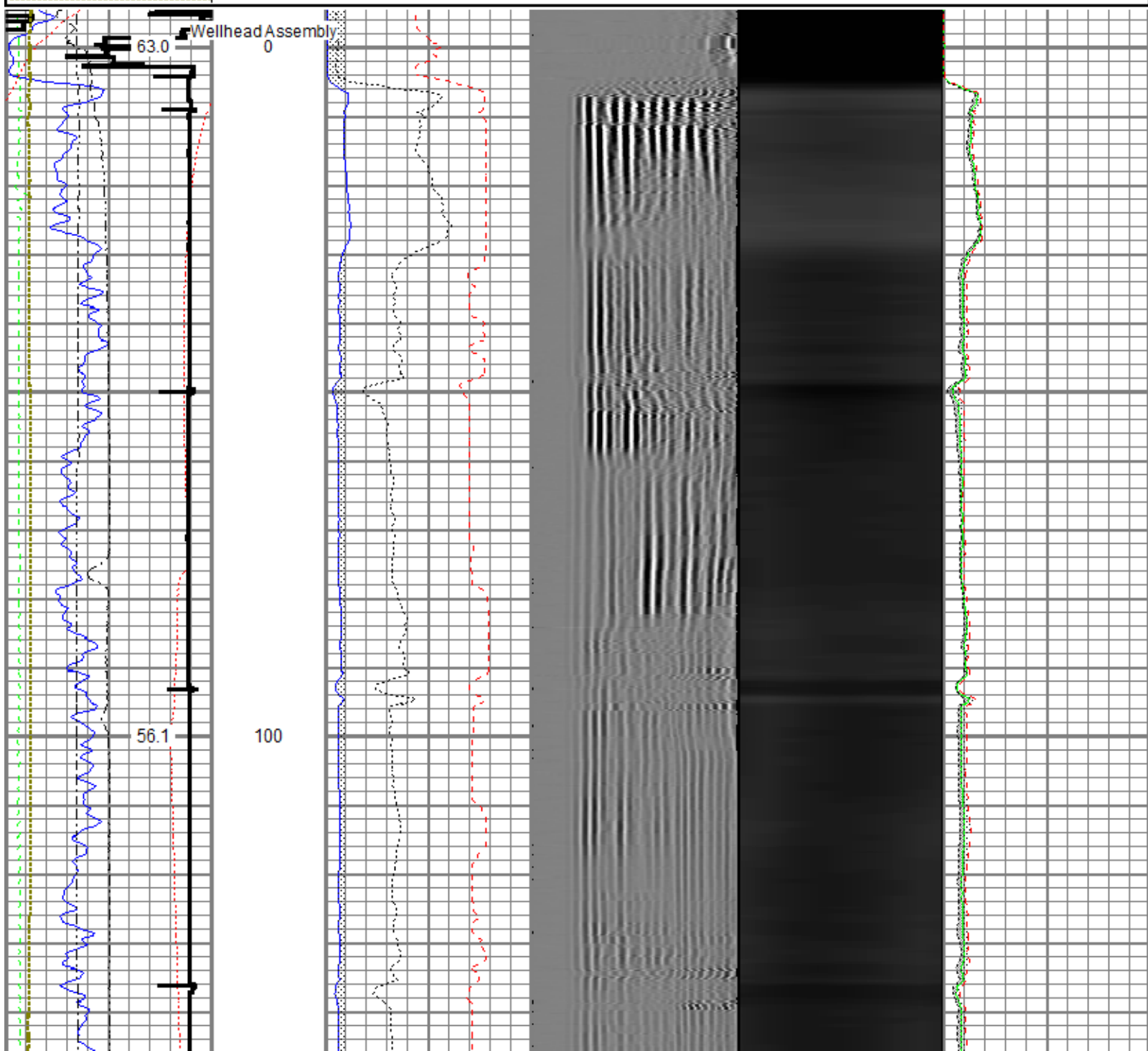
Thank you for choosing Reliance Oilfield Services, LLC!!

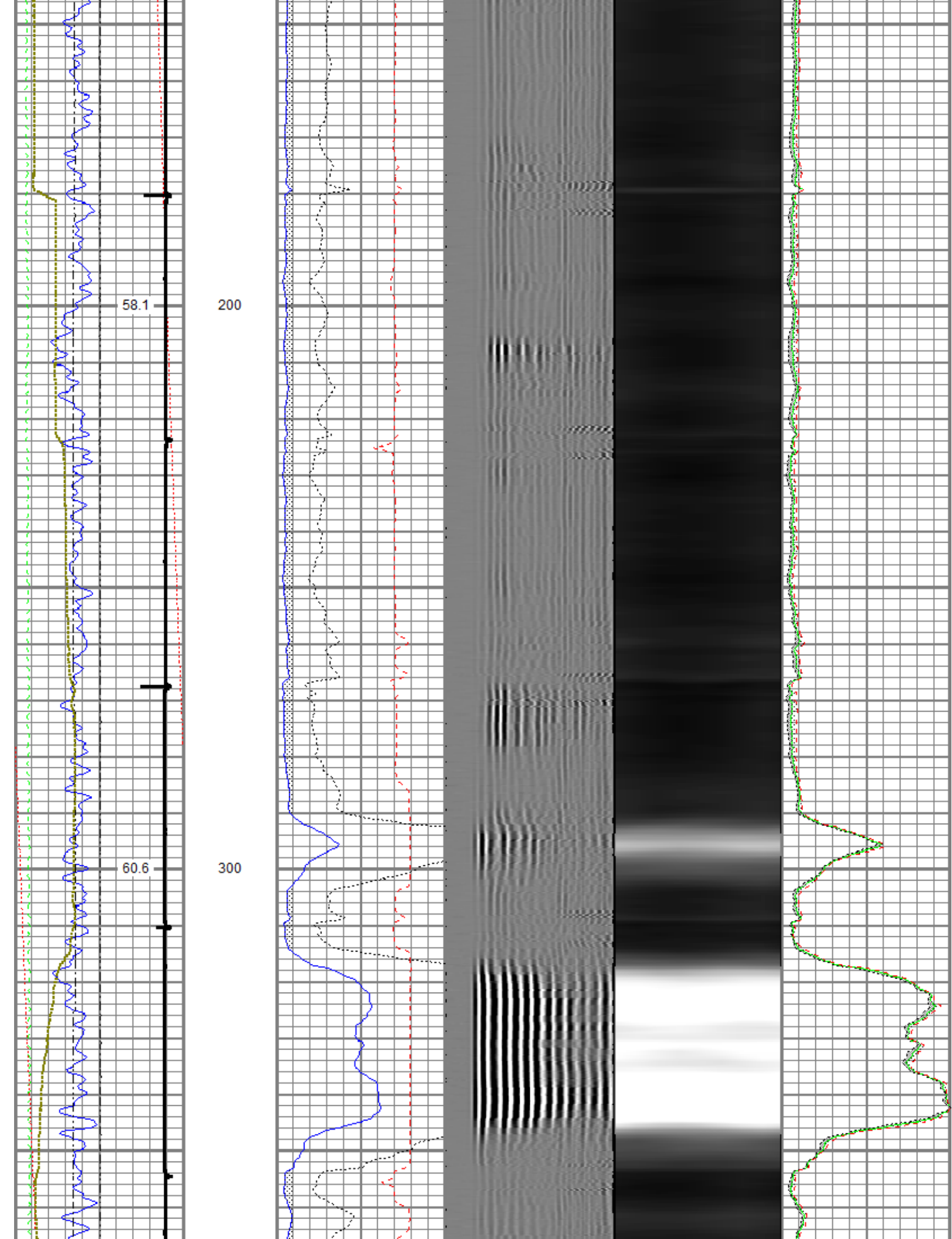
## Main Pass

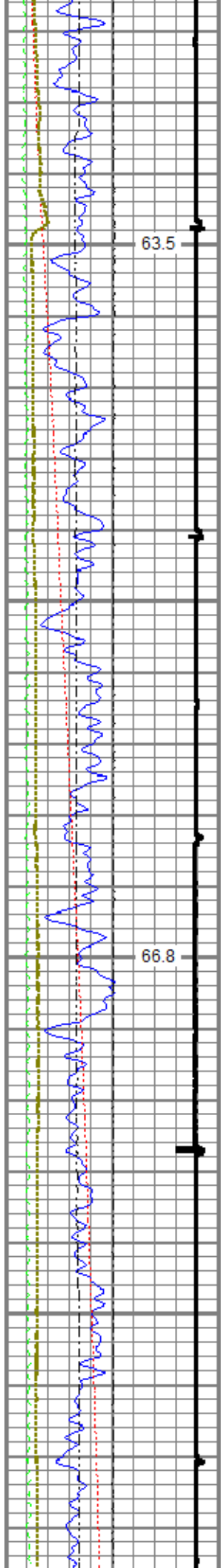


Database File anadarko\_wagner 27c-10hz\0512343474\_anadarko\_wagner 27c-10hz\_rbl\_12-09-17.db  
 Dataset Pathname pass4.1  
 Presentation Format ros\_rbt\_mit\_sx  
 Dataset Creation Sat Dec 09 15:39:56 2017  
 Charted by Depth in Feet scaled 1:240

Gamma Ray	0	3' Amplitude (mV) 100	5' Variable Density Log	Sector Map	0	Average Amplitude 100
(GAPI) 120		3' Amplitude x 5	200			Minimum Amplitude
Line Speed	0	(mV) 20			0	100
(ft/min) 100		3' Travel Time				Maximum Amplitude
Line Tension (lb) 2000	0	650 (usec) 150			0	100
Differential Temperature						
(degF) 2						
Temperature (degF) 20						
Casing Collar Locator						
Deviation (deg) 90						

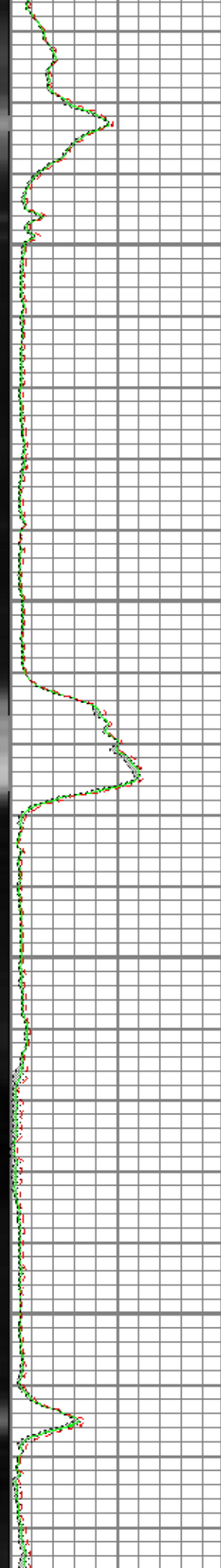
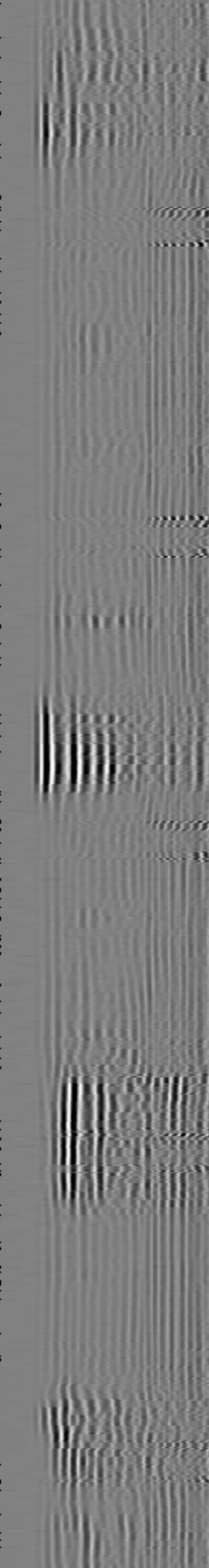
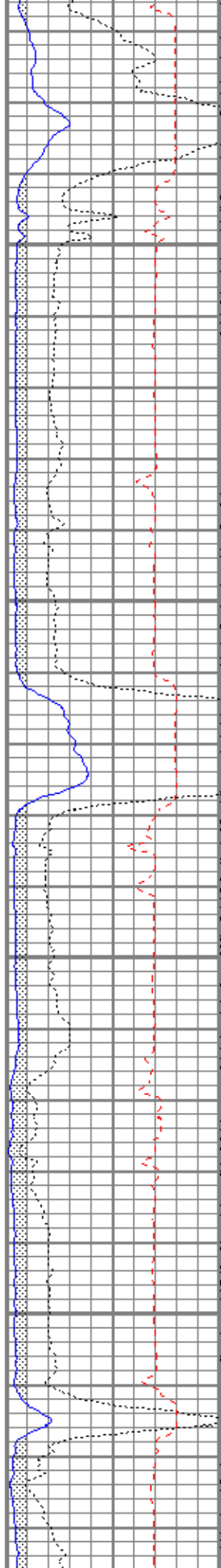




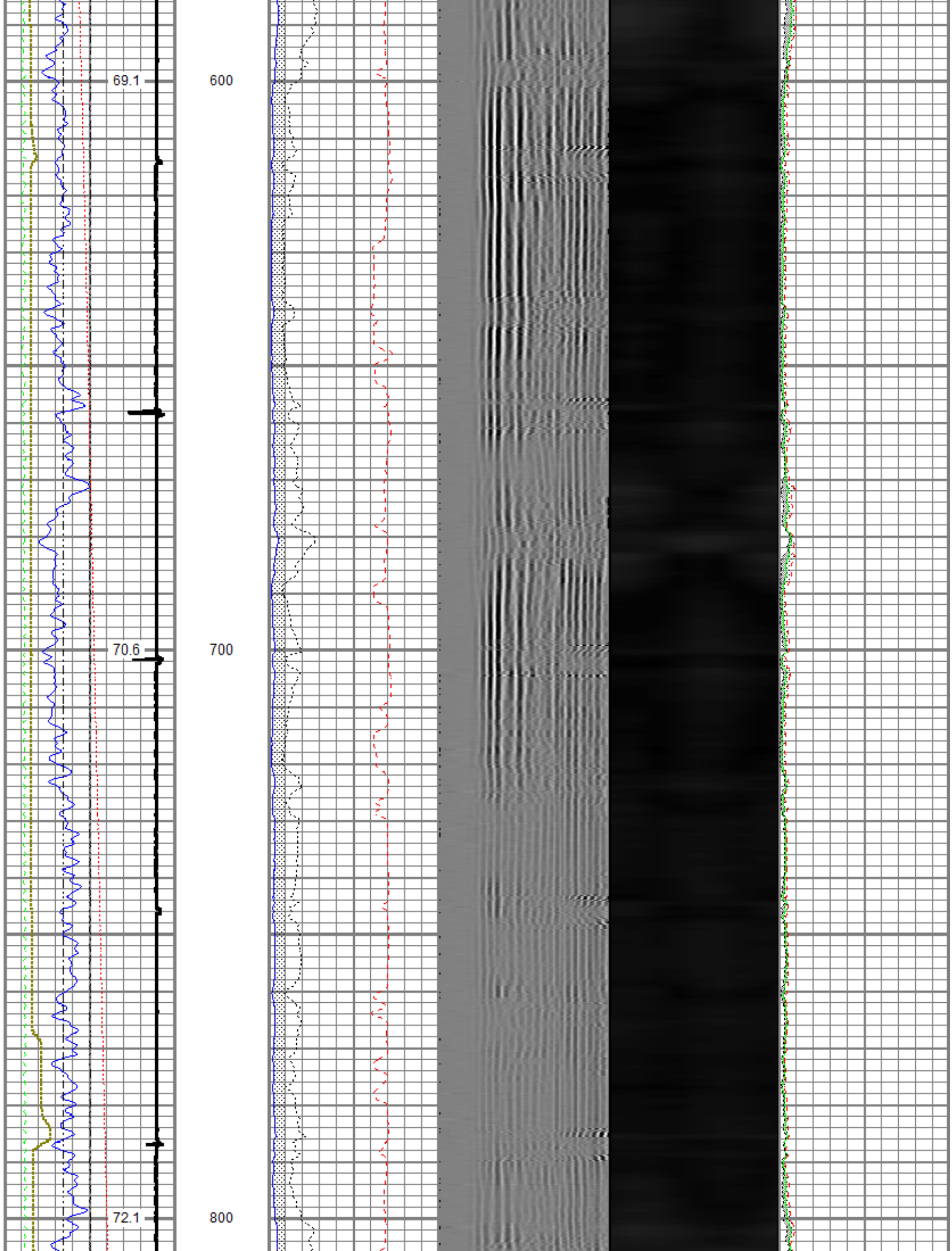


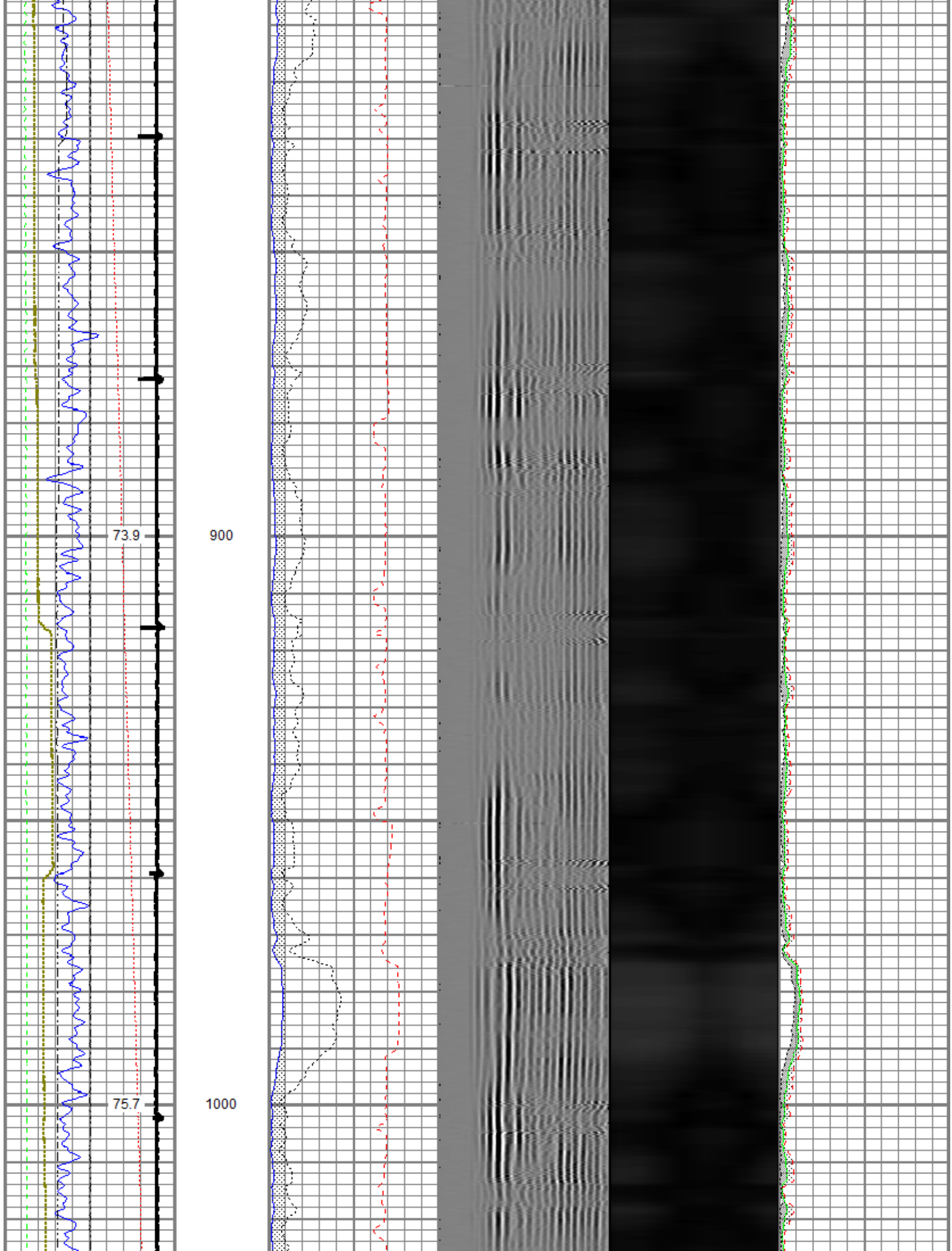
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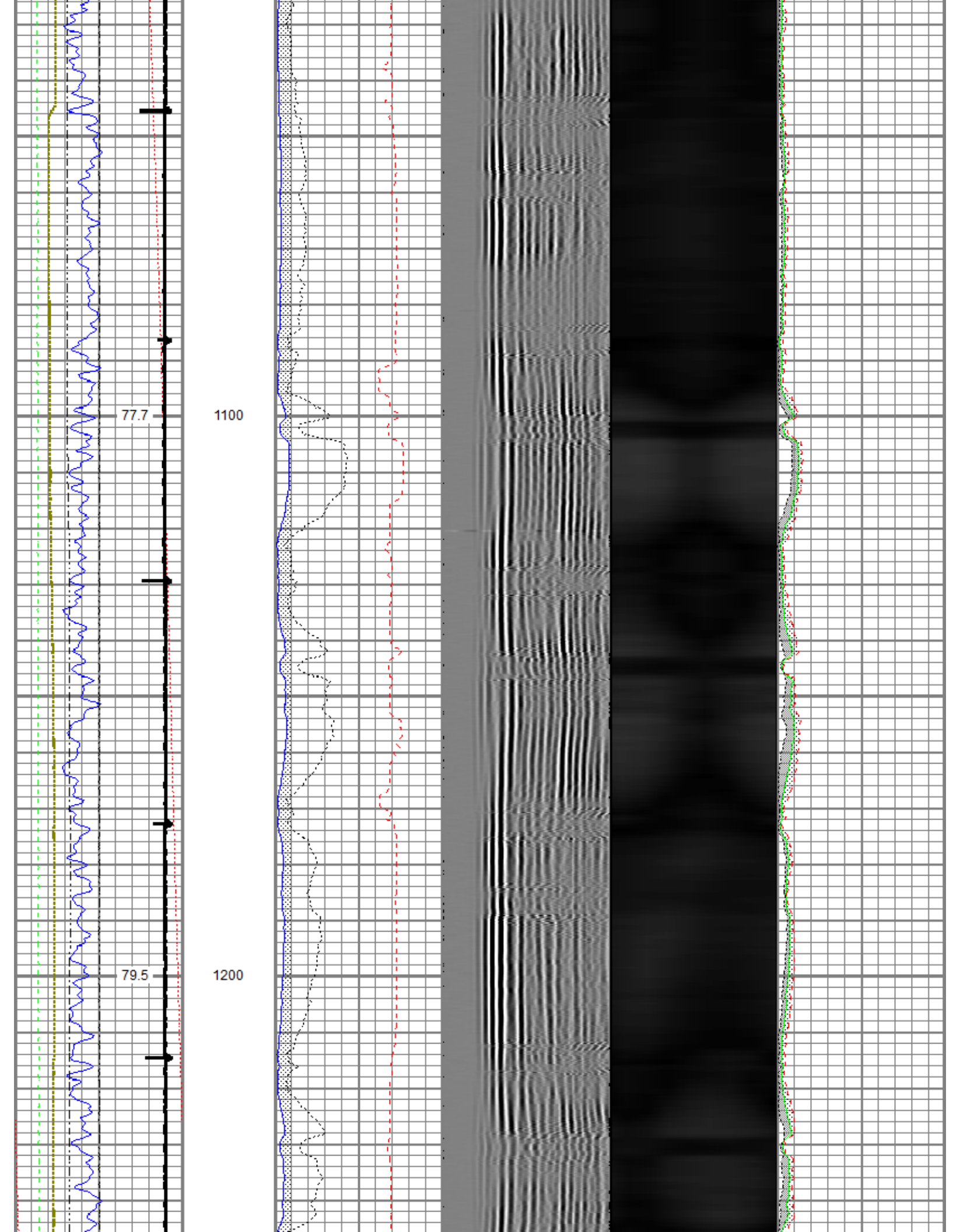
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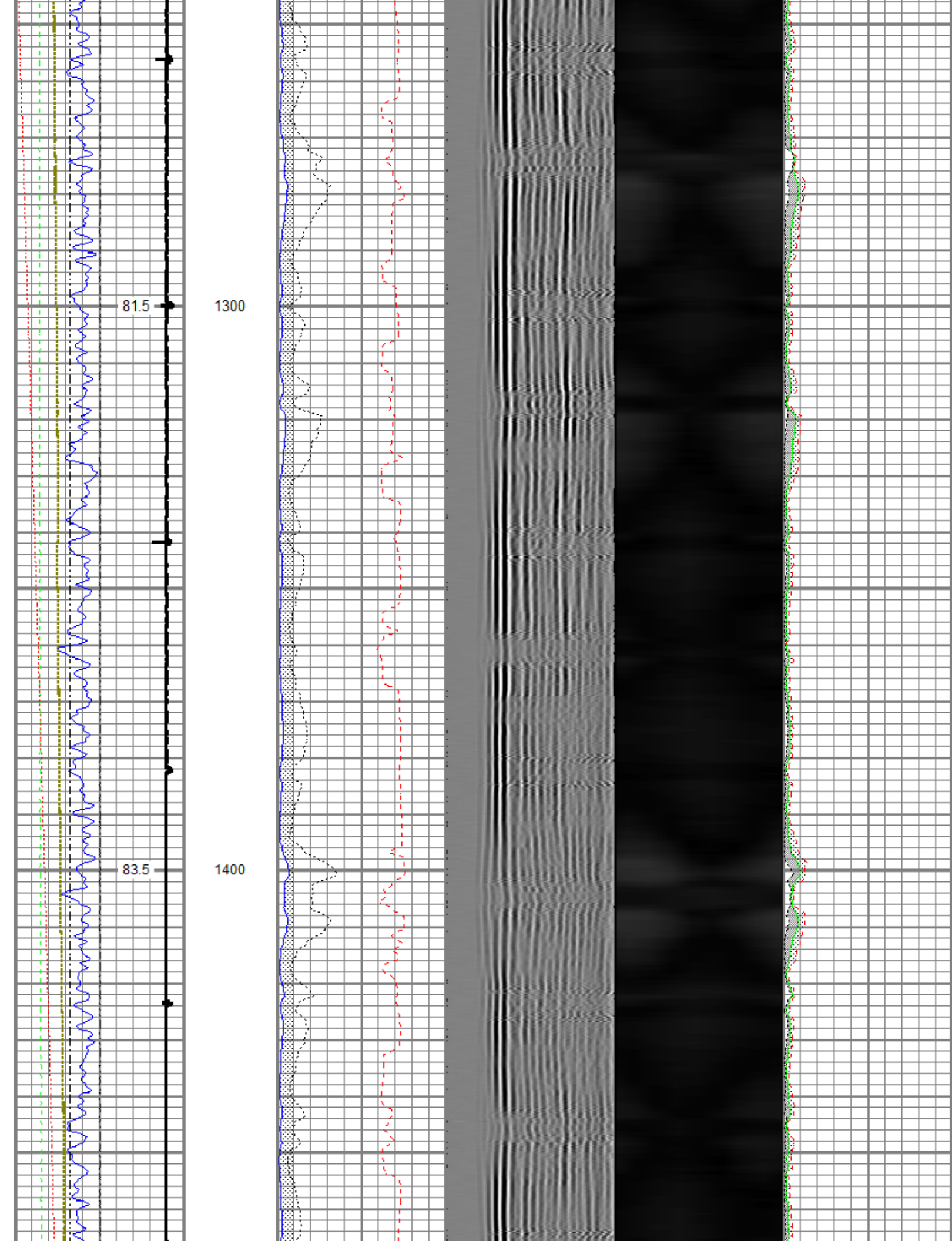




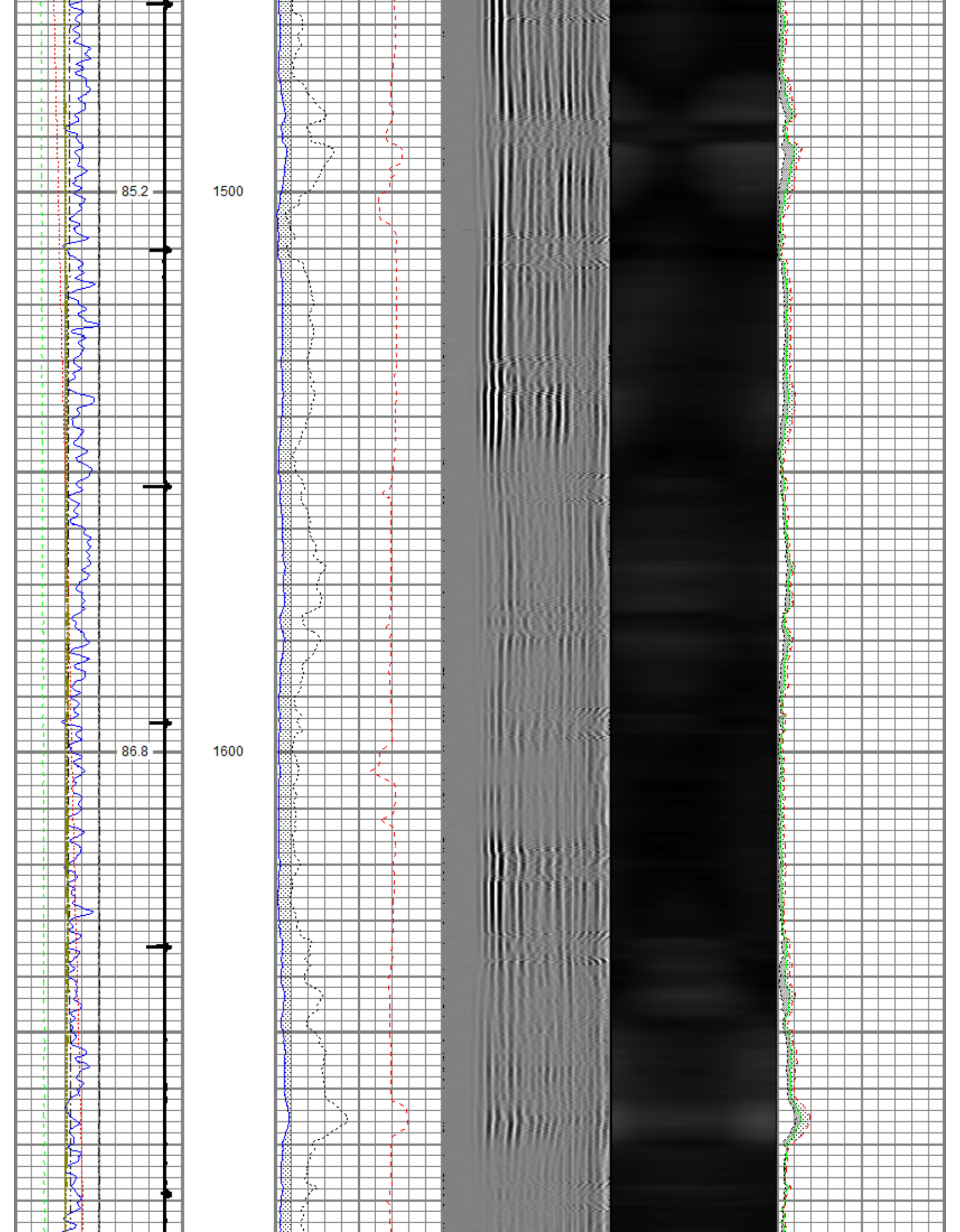


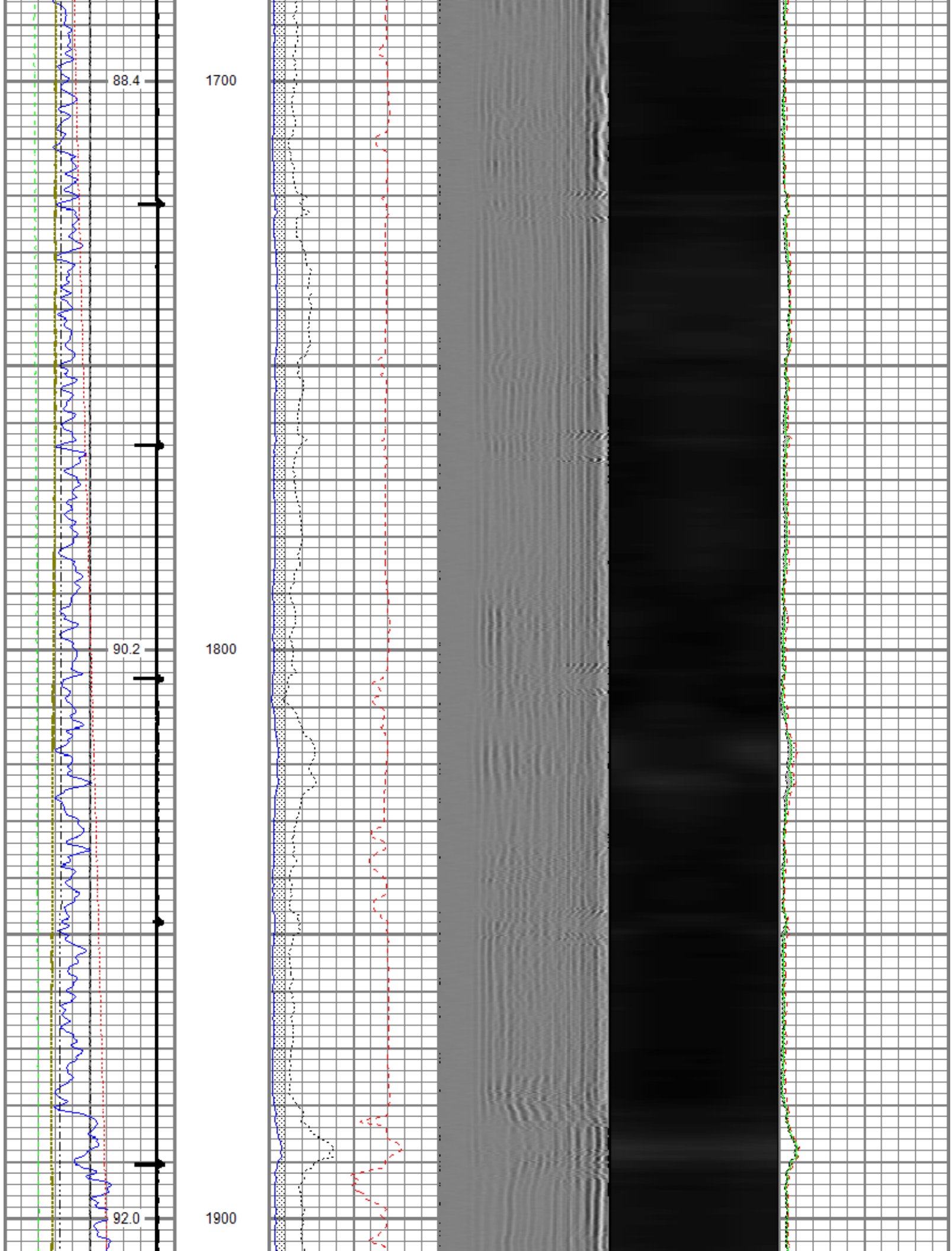


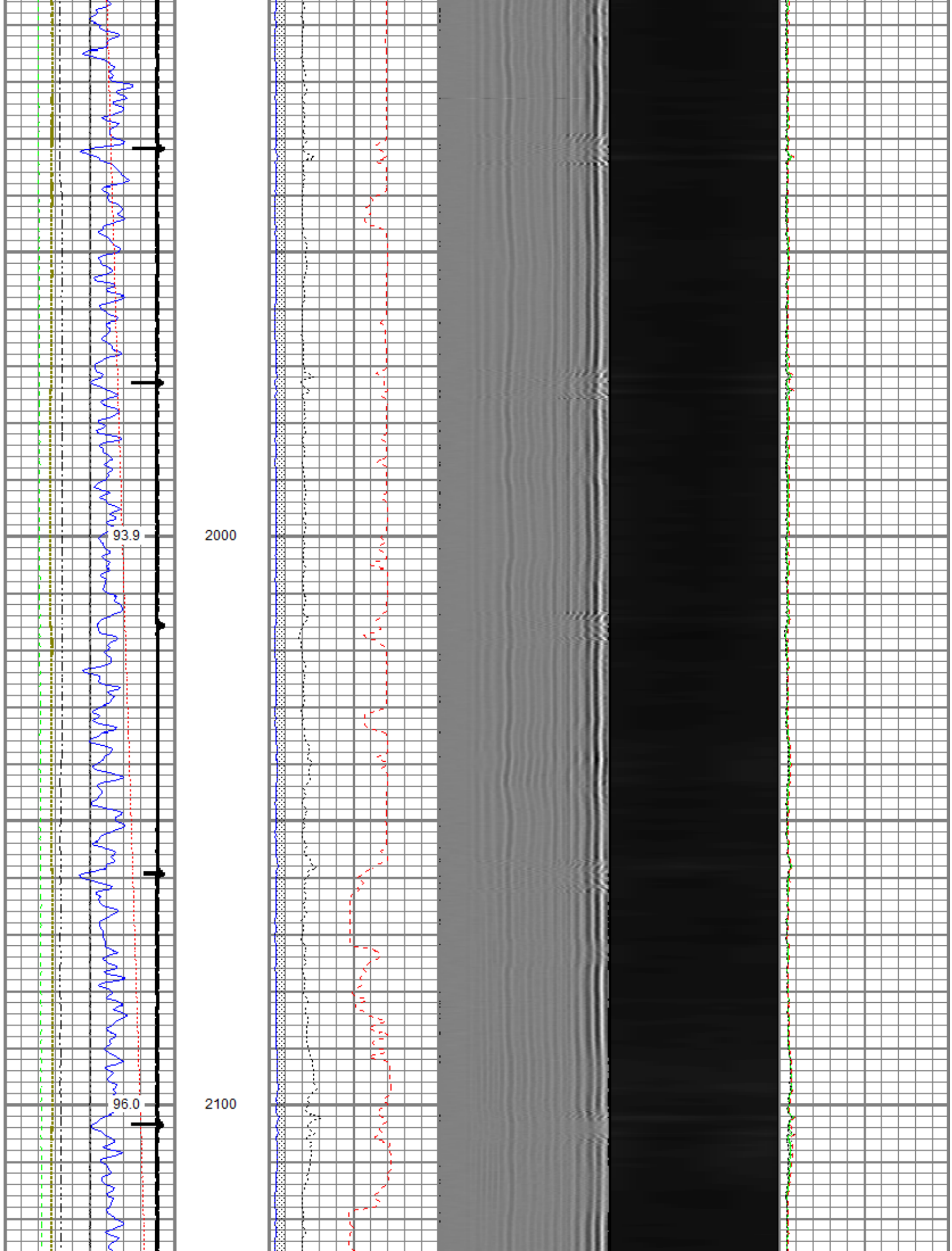


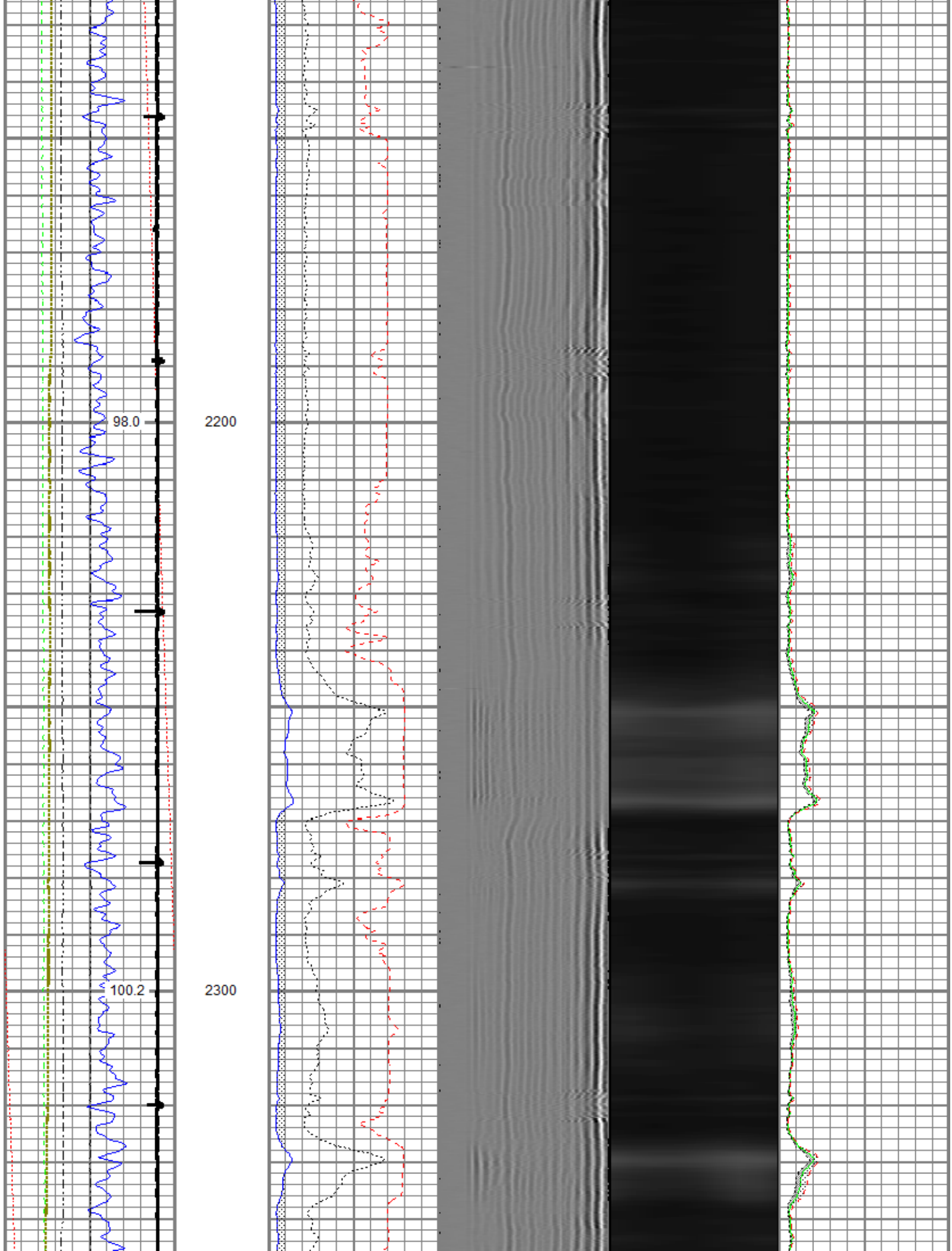




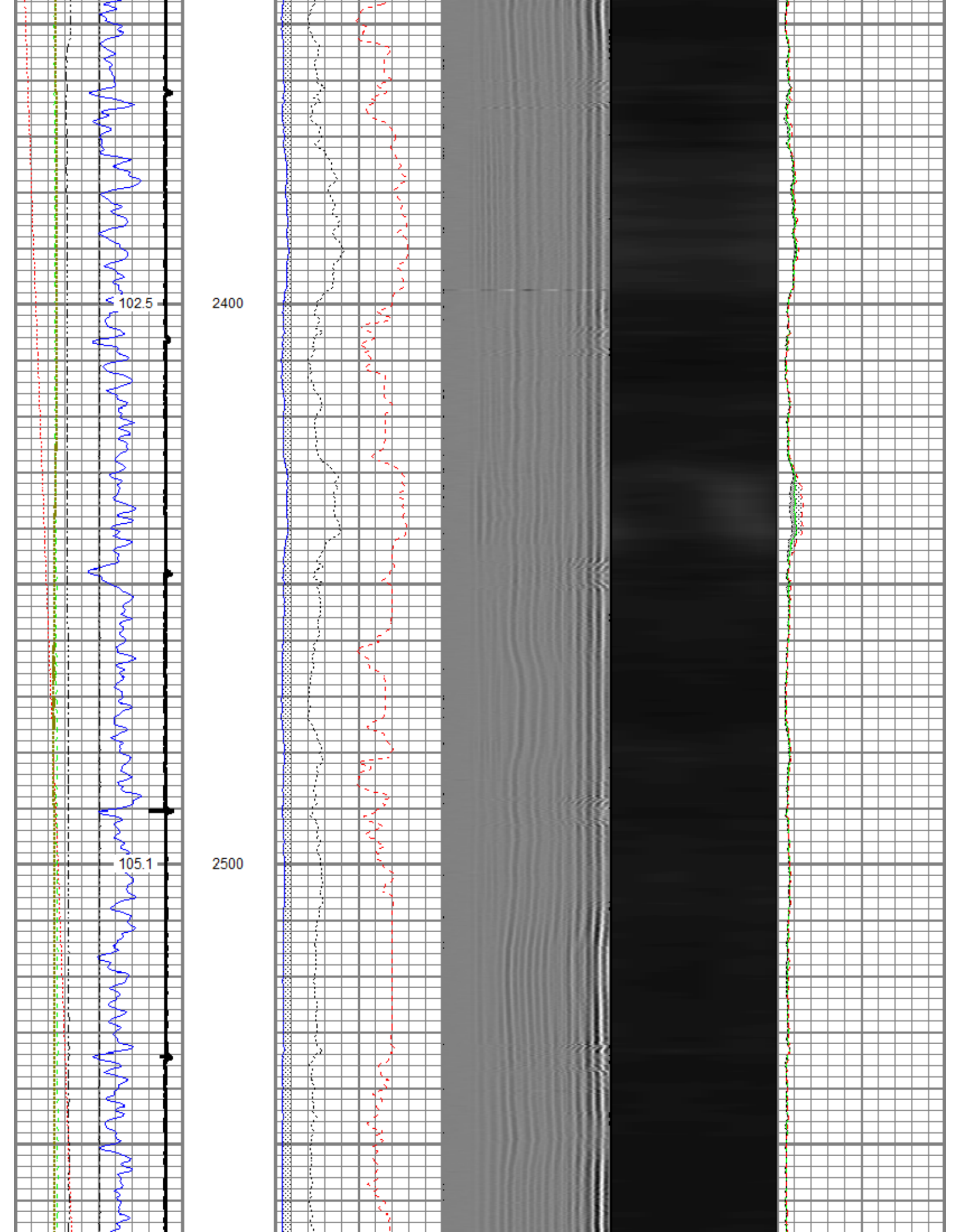


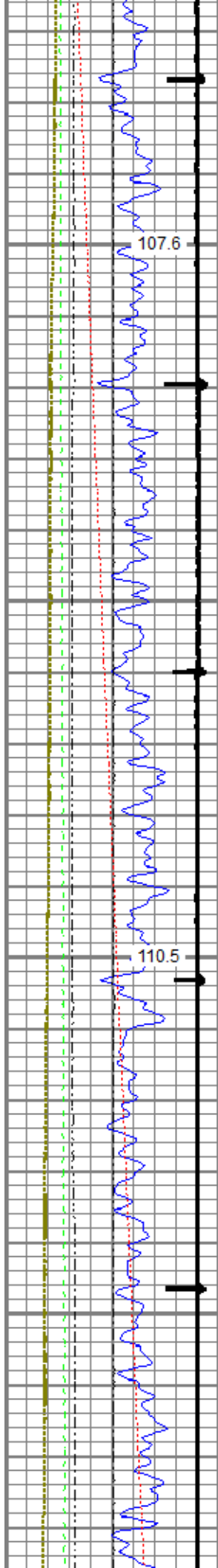






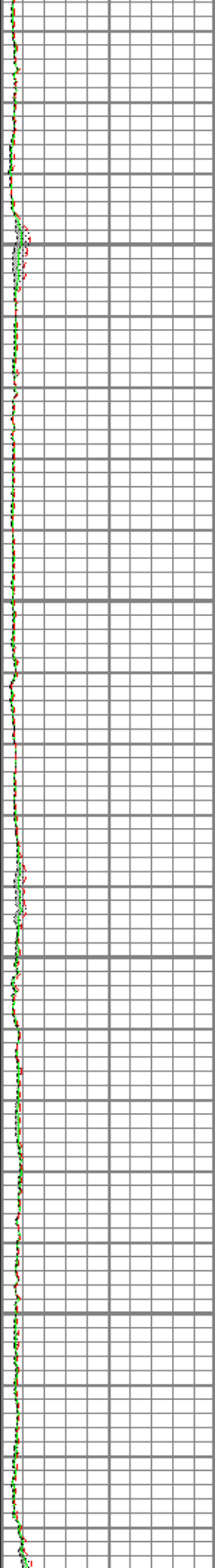
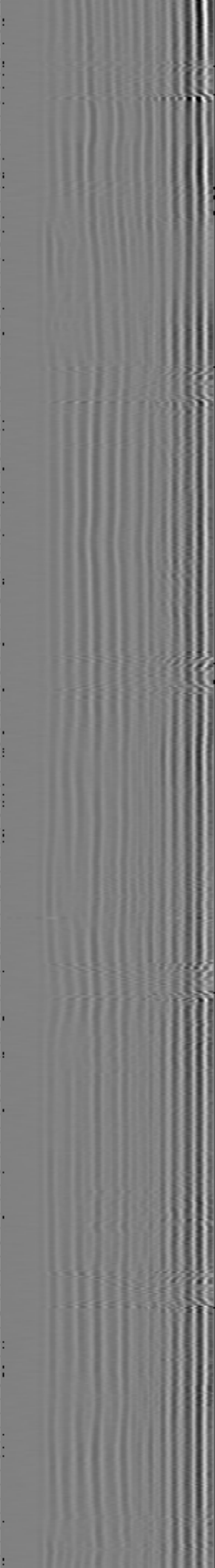
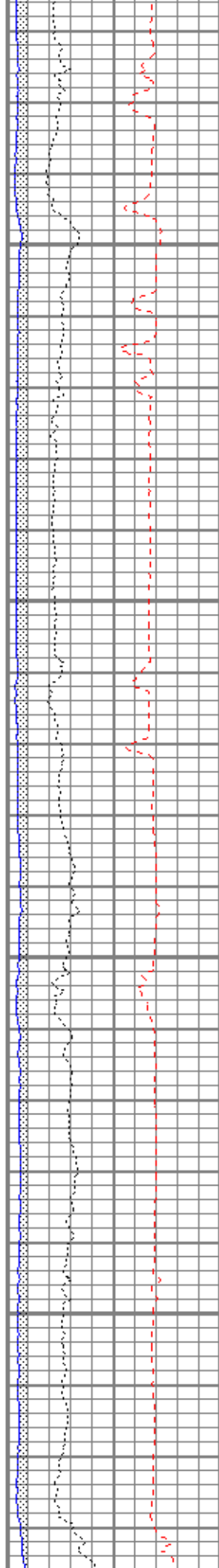


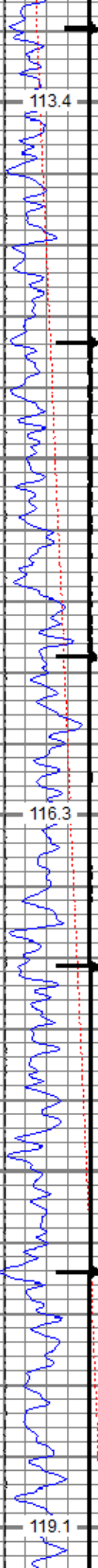




2600

2700

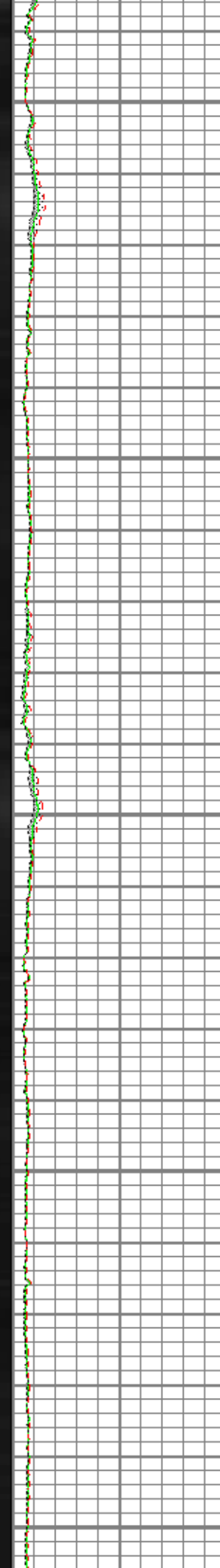
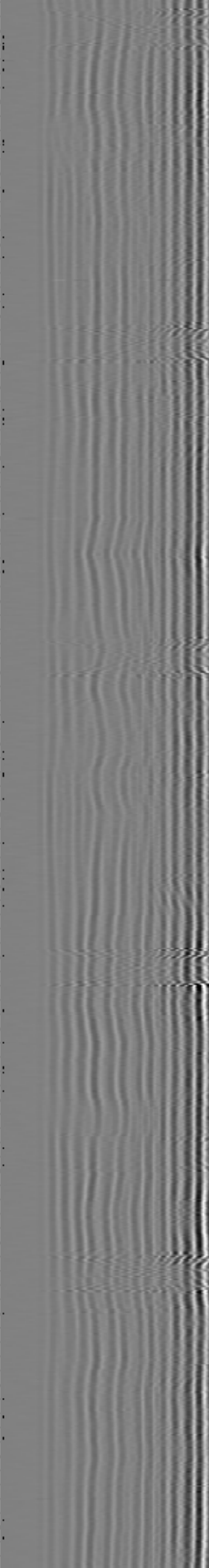
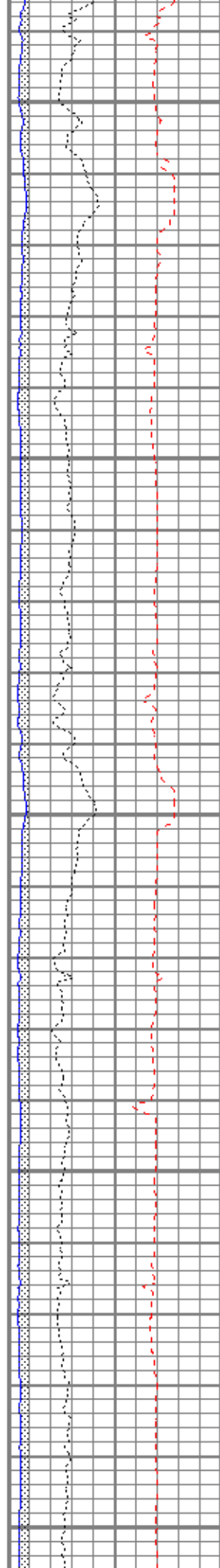


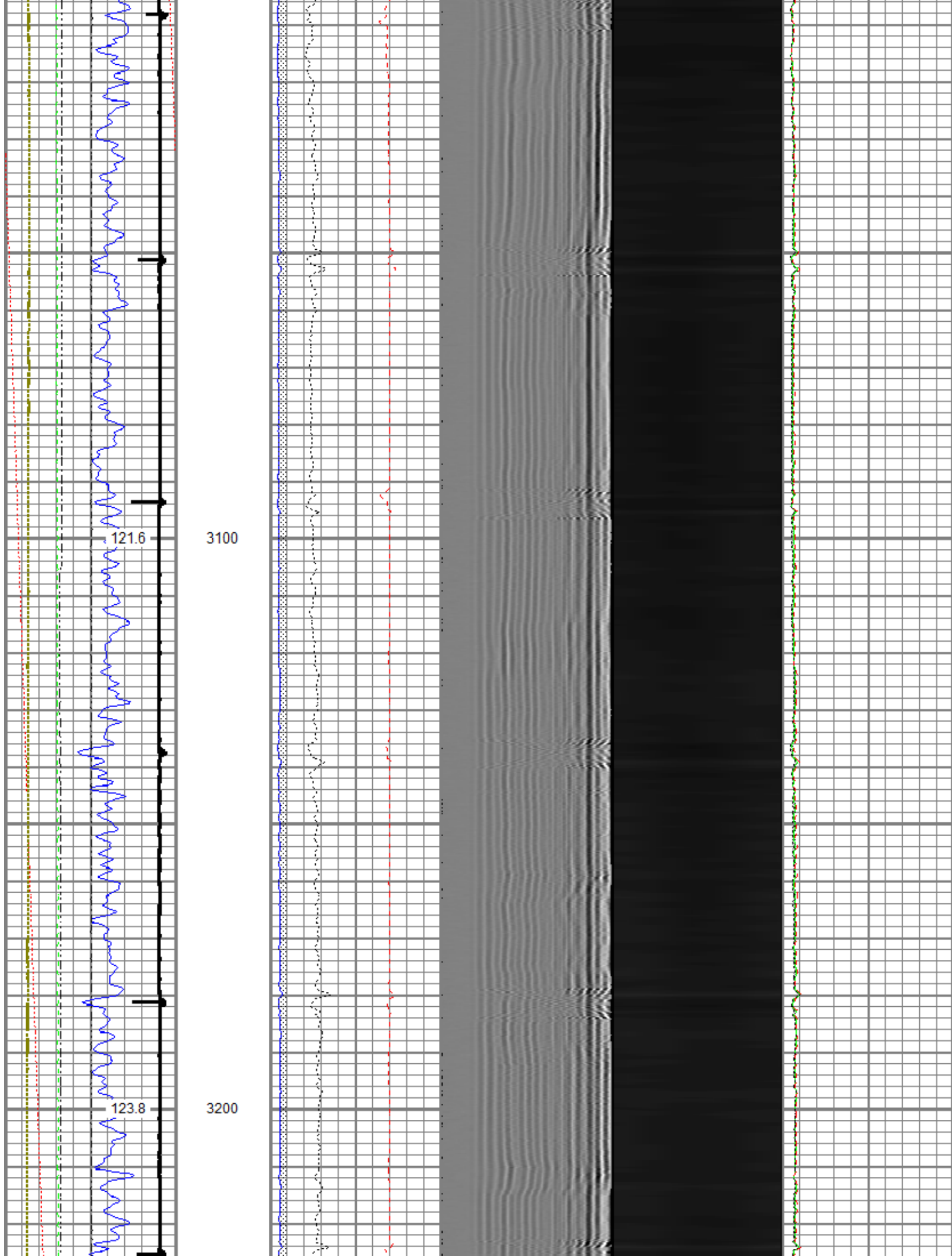


2800

2900

3000







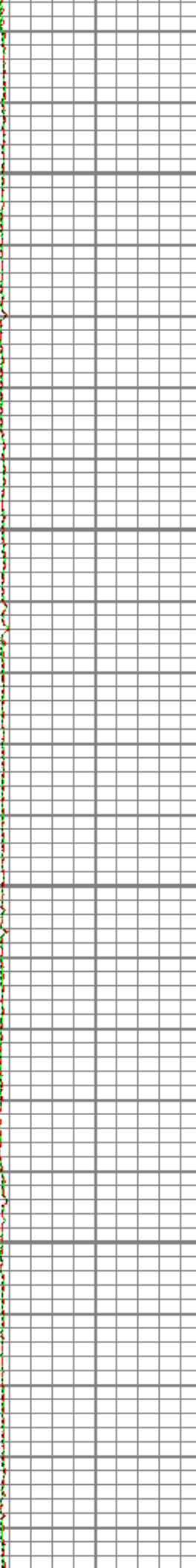
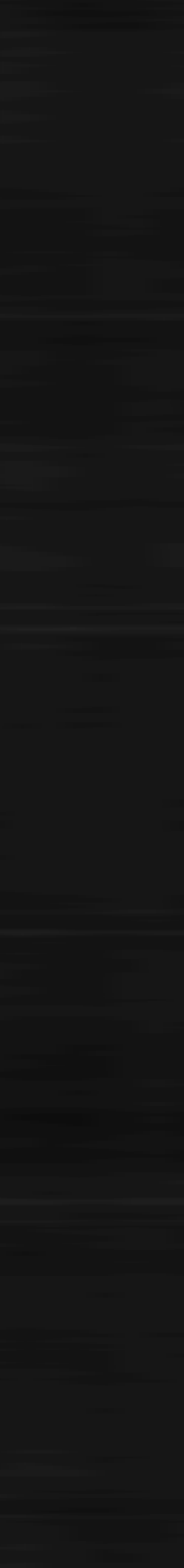
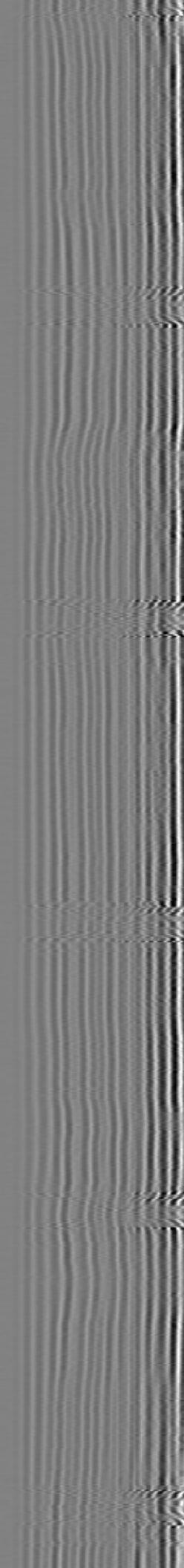
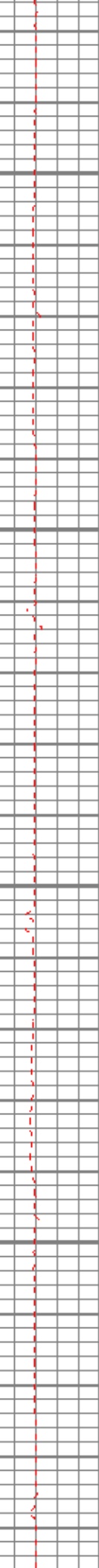
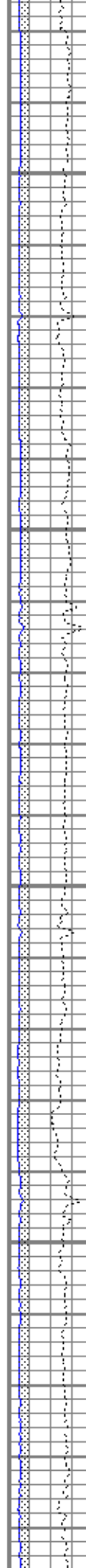


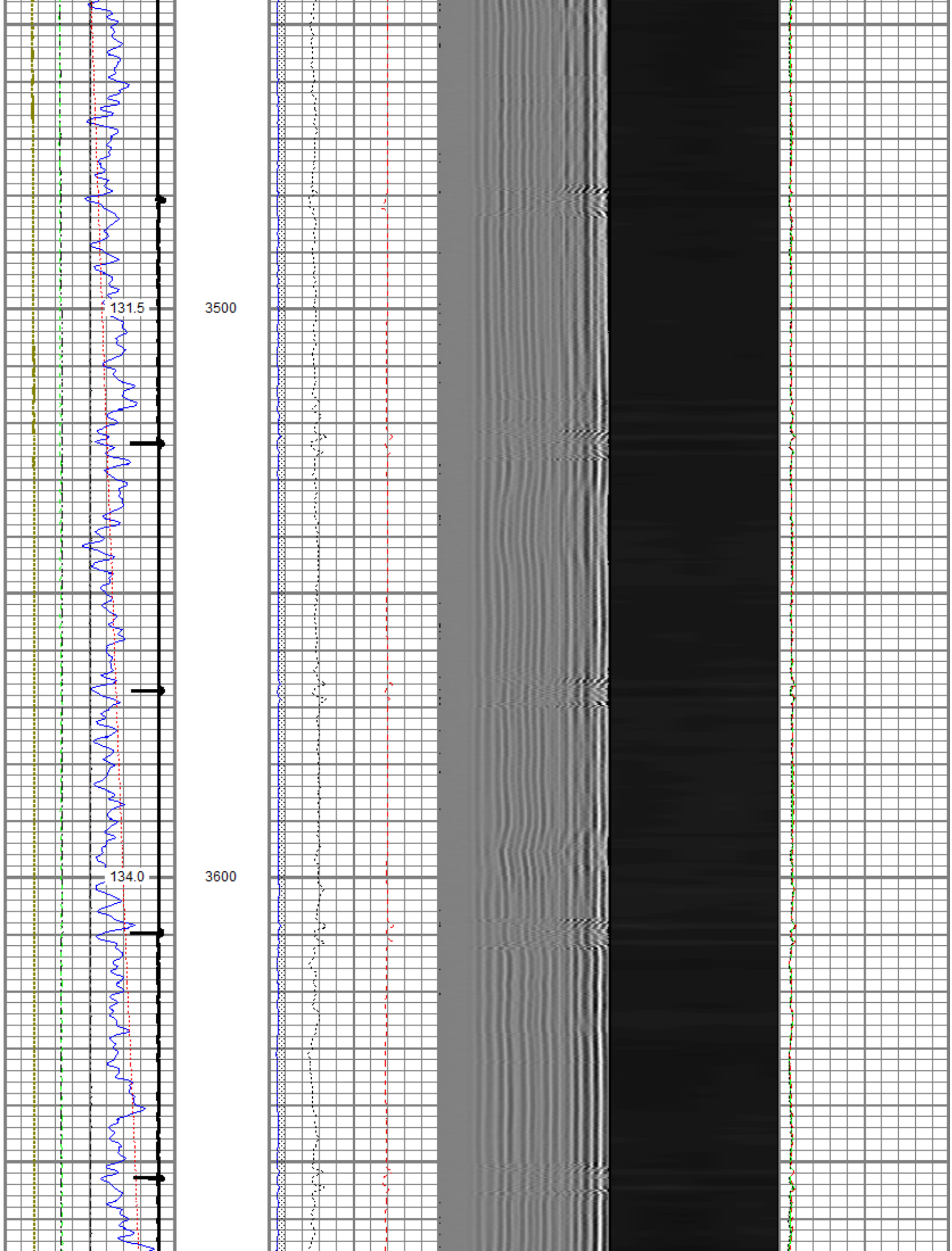
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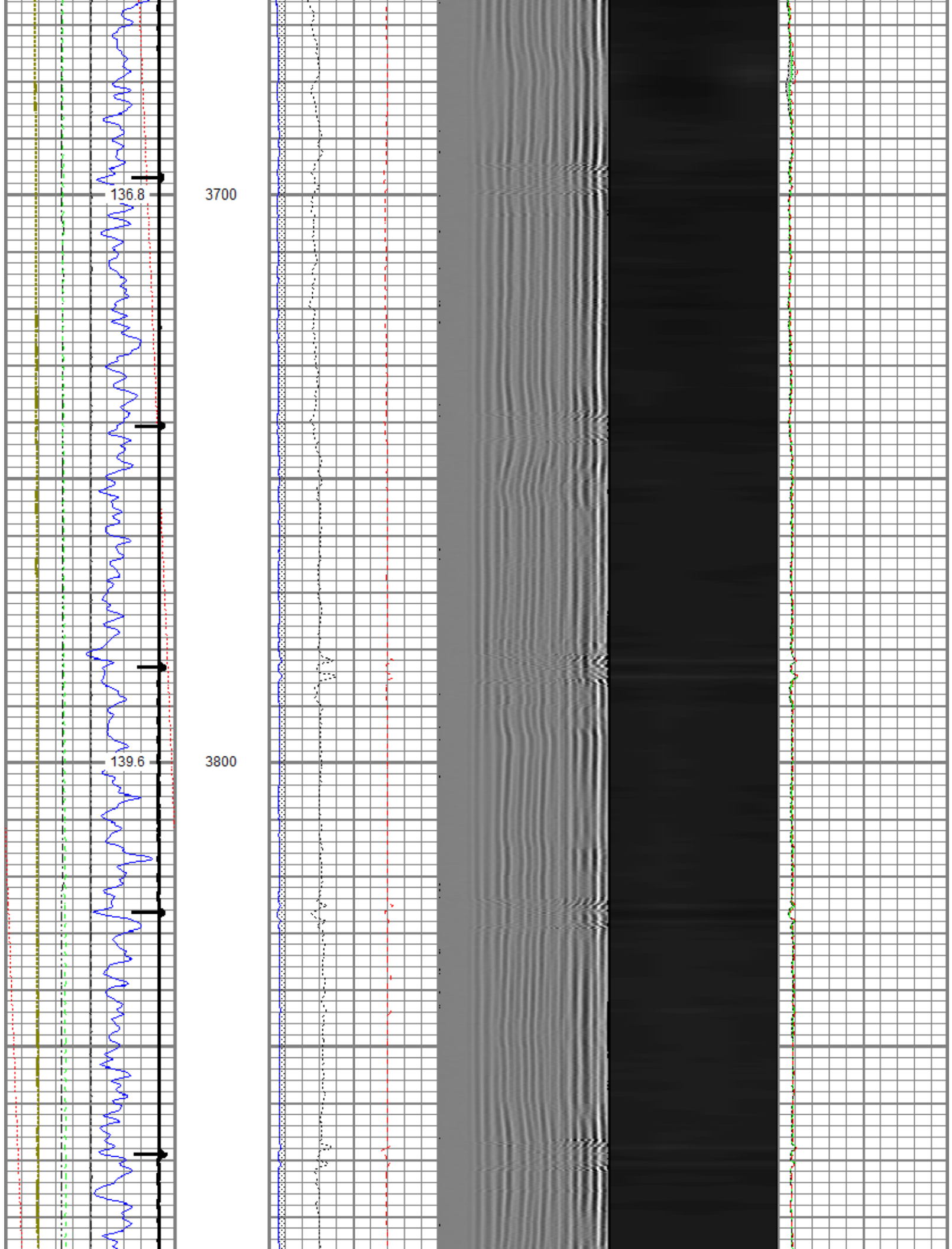
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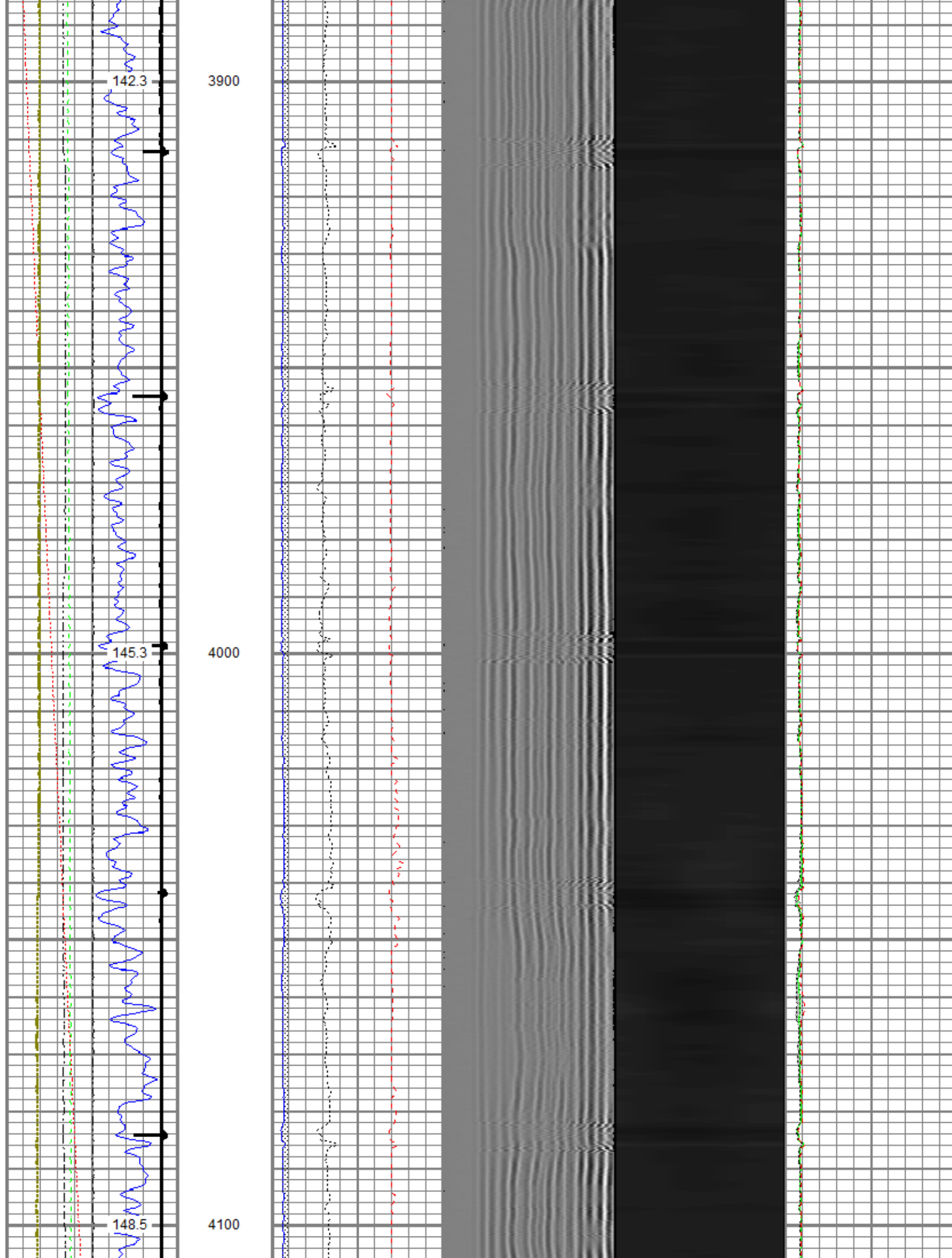
129.0

3400

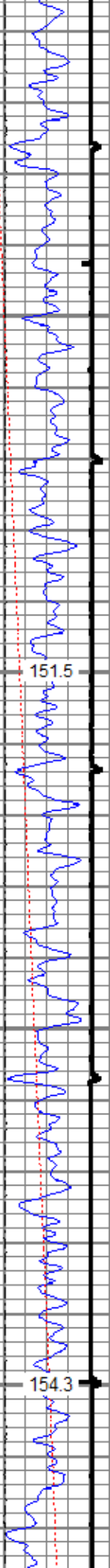






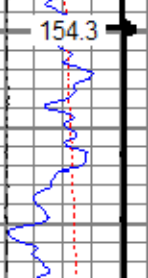






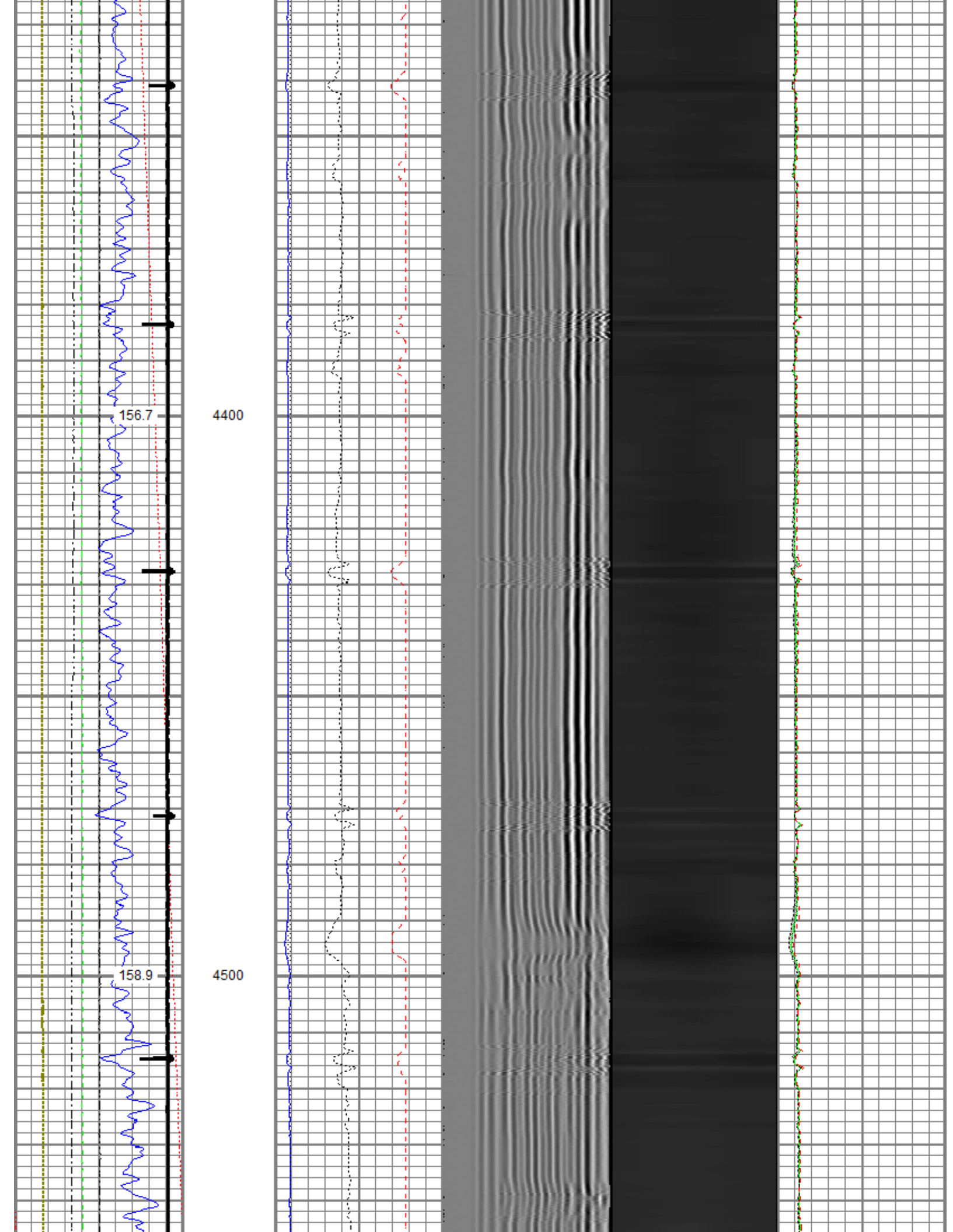
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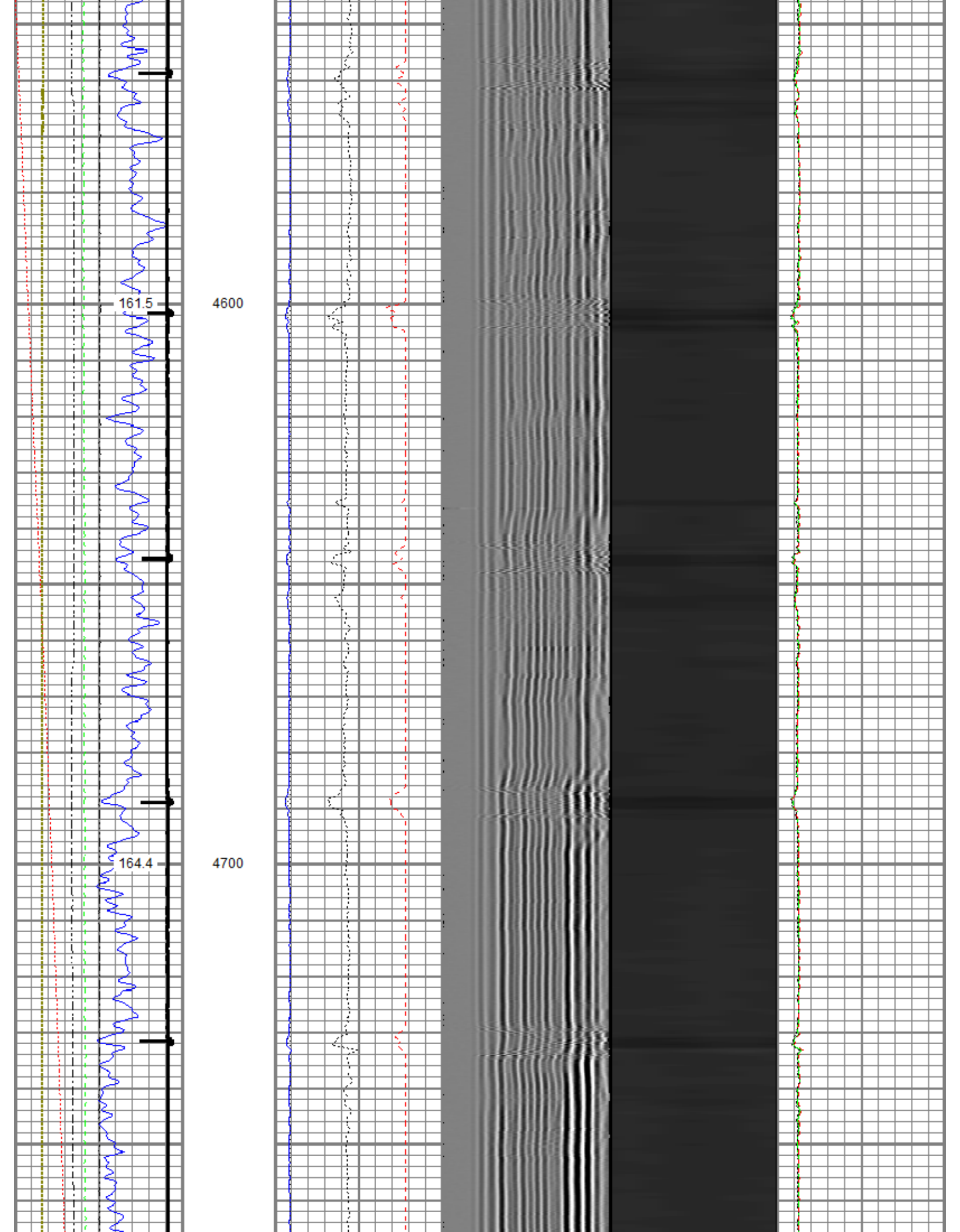
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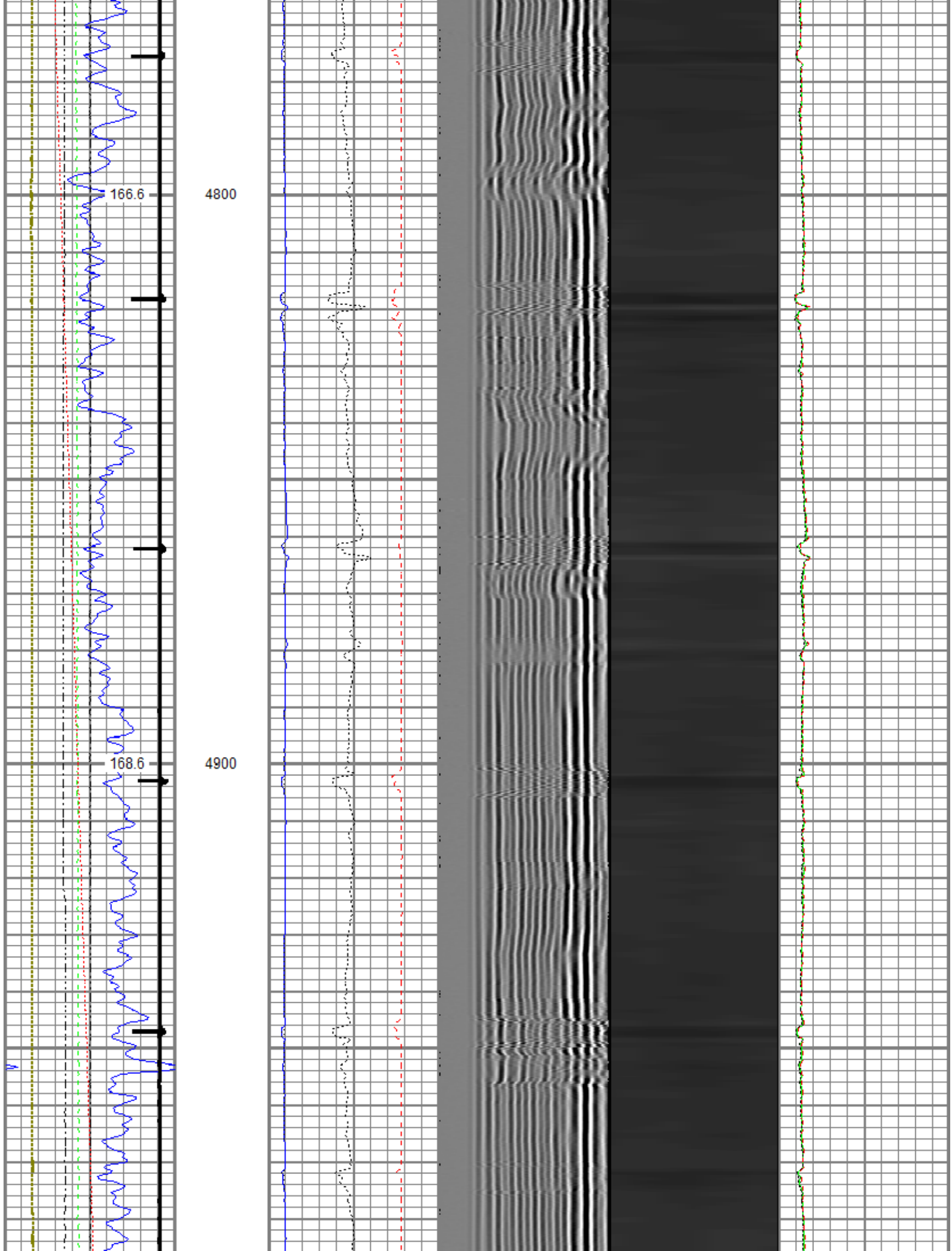


154.3

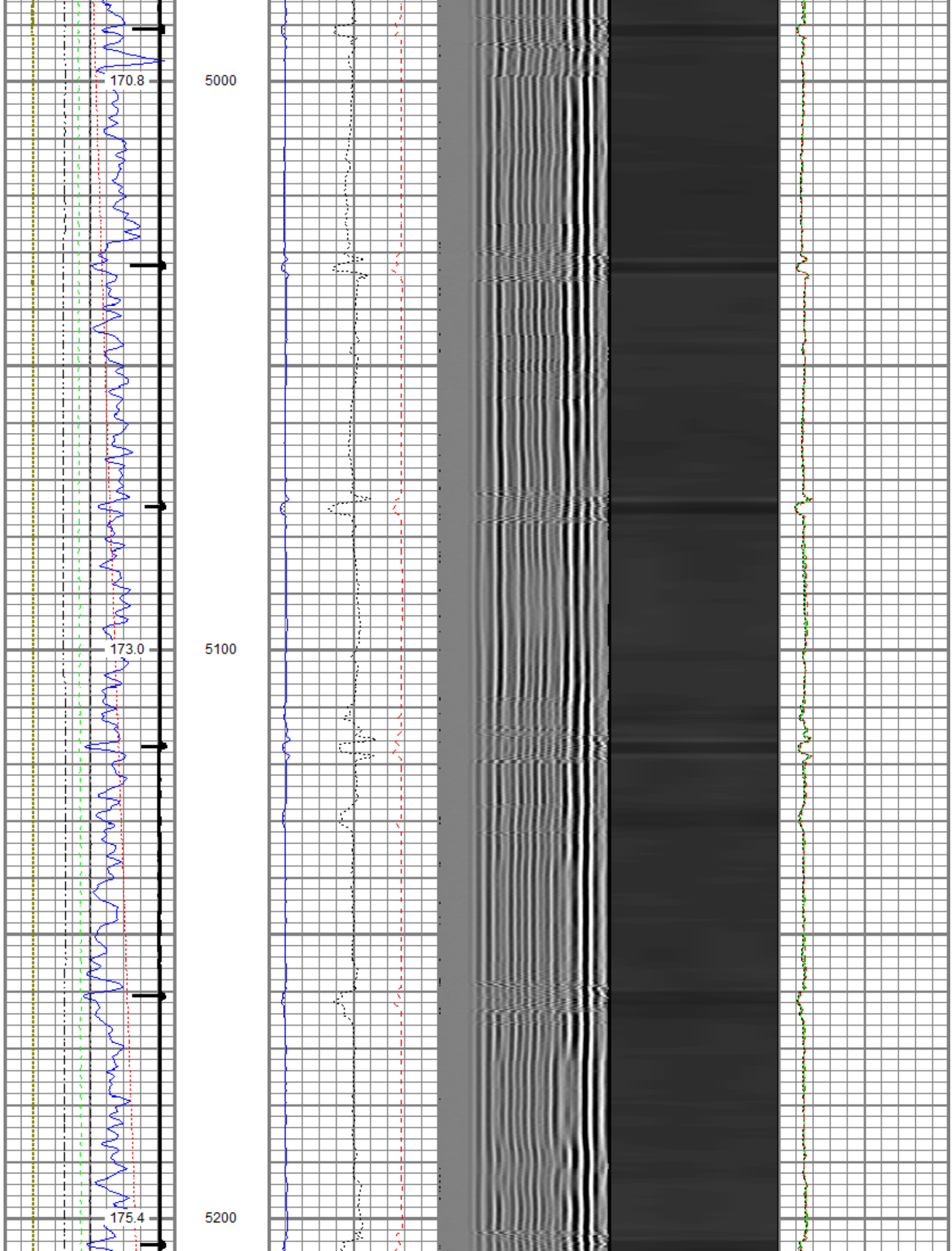
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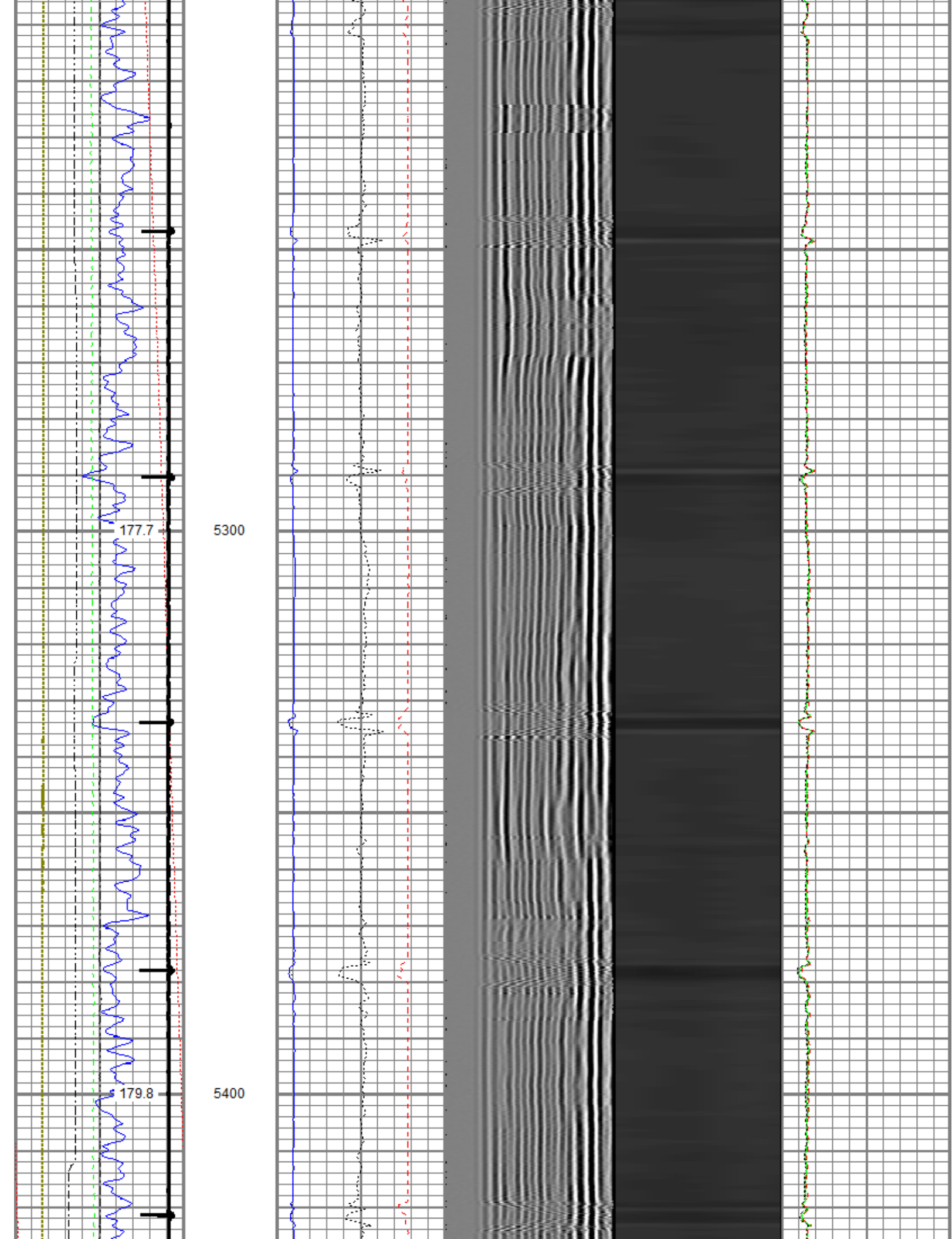


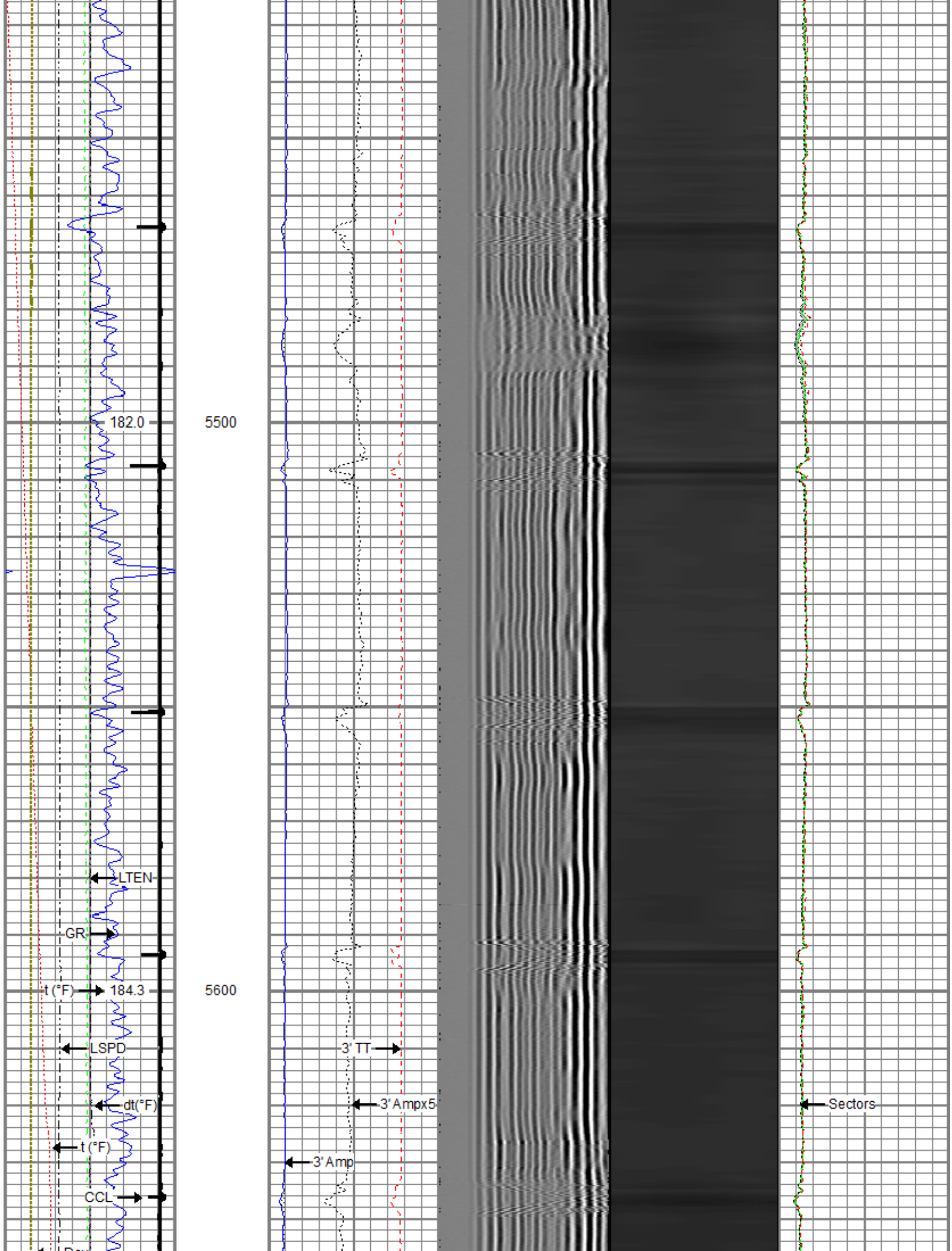


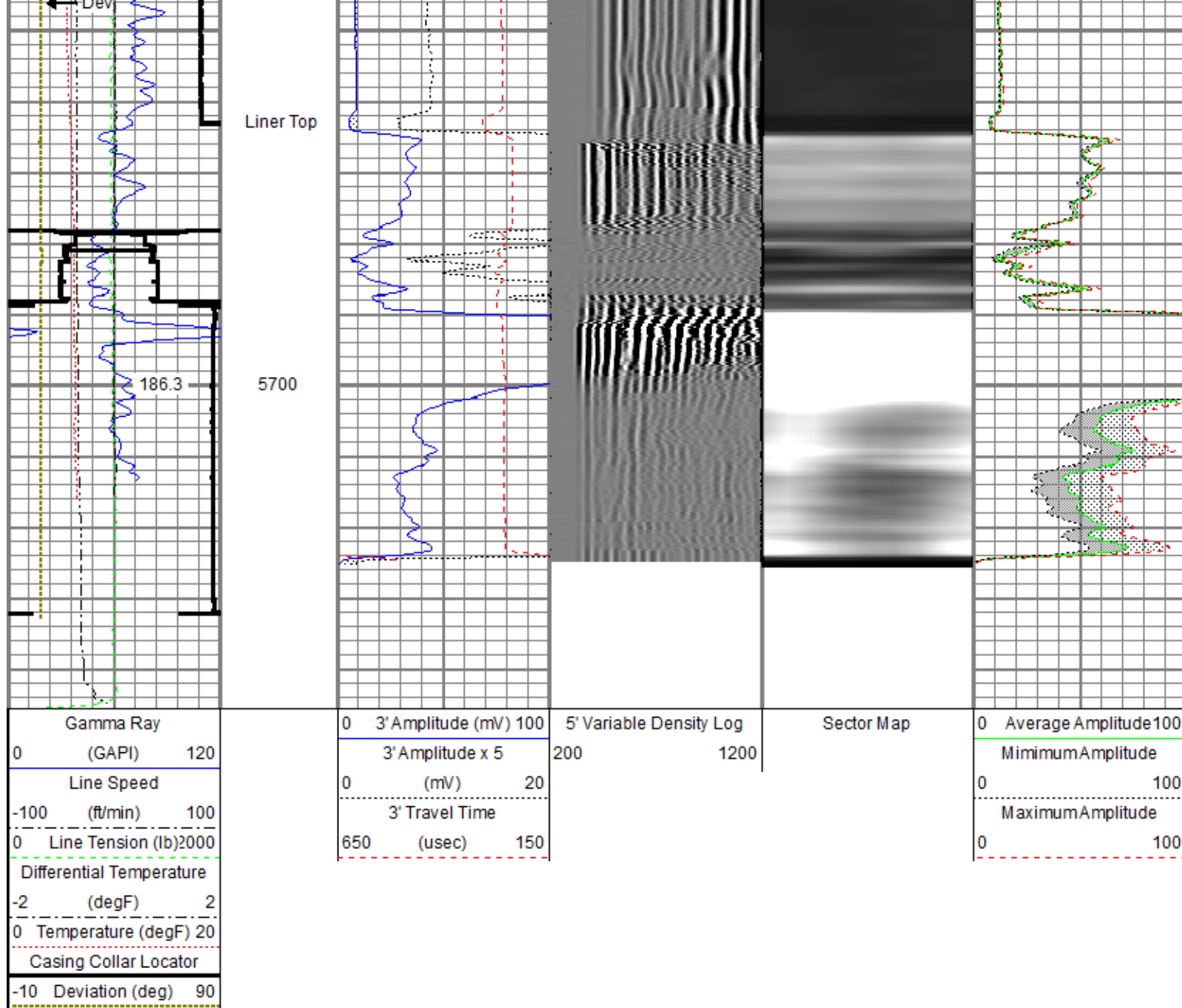








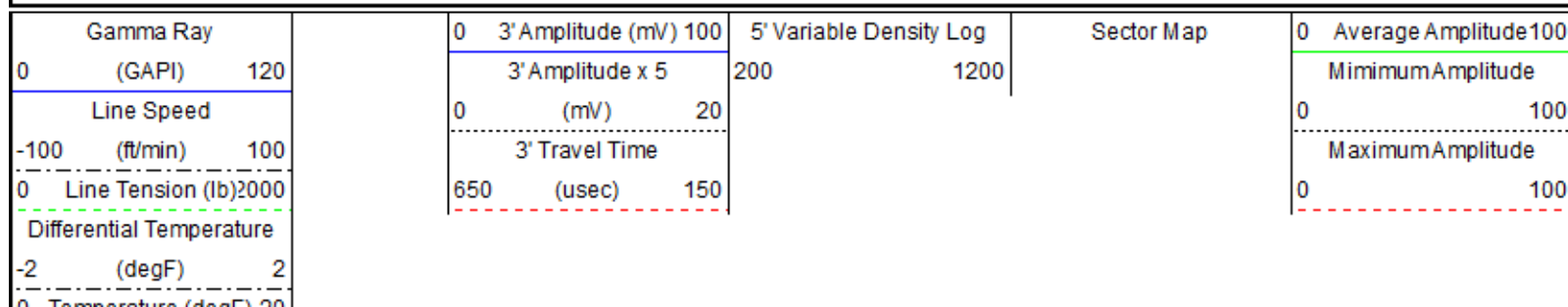




## Repeat Pass

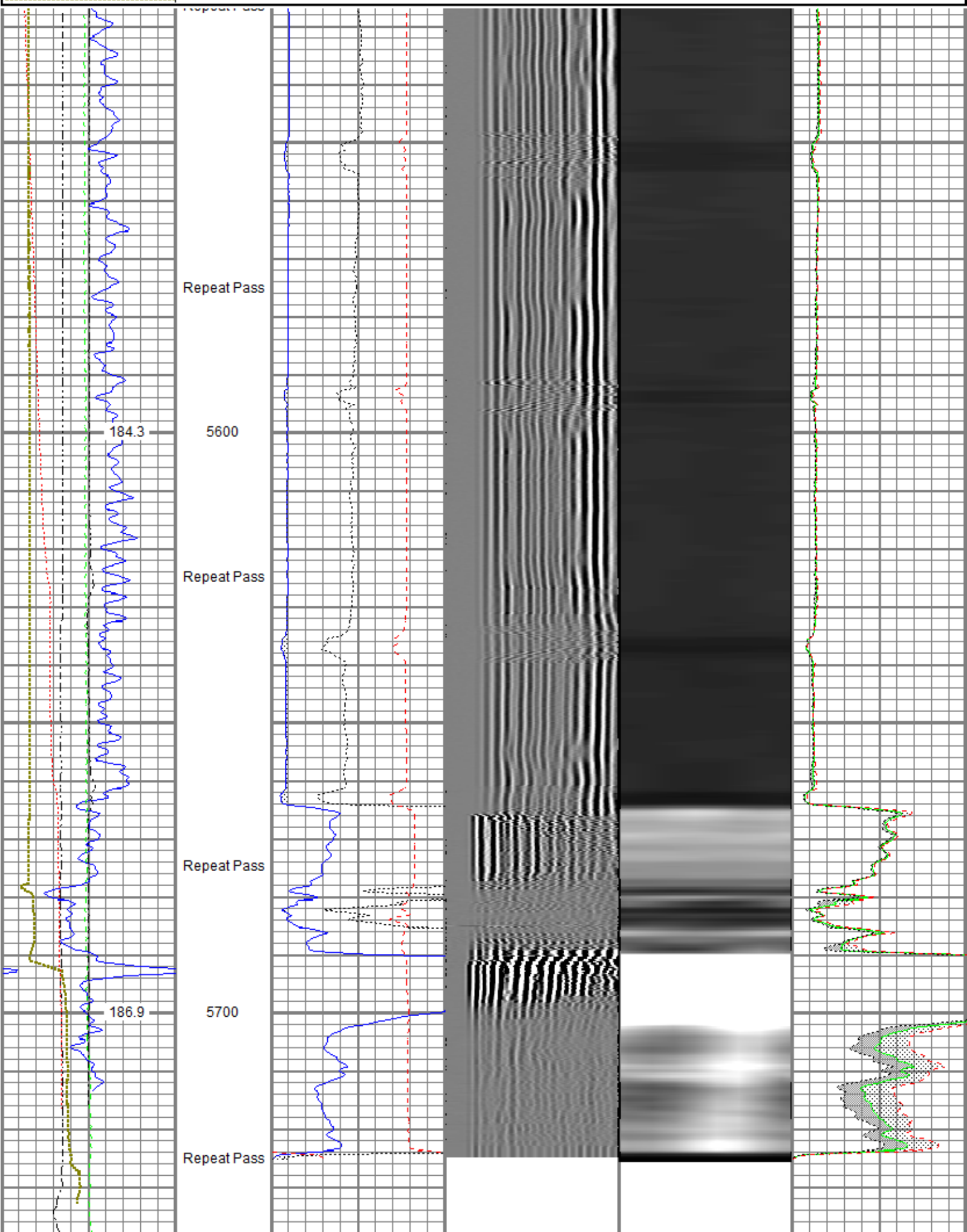
Recorded With 2800 PSI Surface Induced Pressure

Database File: anadarko\_wagner 27c-10hz\0512343474\_anadarko\_wagner 27c-10hz\_rbl\_12-09-17.db  
 Dataset Pathname: pass2.1  
 Presentation Format: ros\_rbt\_mit\_sx  
 Dataset Creation: Sun Dec 10 17:28:54 2017  
 Charted by: Depth in Feet scaled 1:240

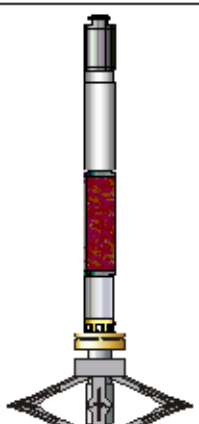
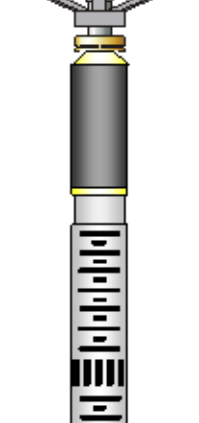
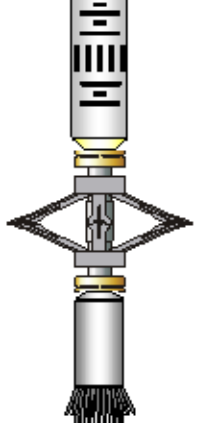
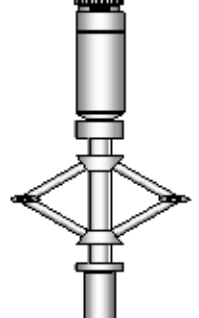




Temperature (deg) 20  
-10 Deviation (deg) 90



Gamma Ray			0	3' Amplitude (mV)	100	5' Variable Density Log	Sector Map	0	Average Amplitude	100
0	(GAPI)	120		3' Amplitude x 5	200	1200			Minimum Amplitude	
Line Speed			0	(mV)	20			0		100
-100	(ft/min)	100		3' Travel Time					Maximum Amplitude	
0	Line Tension (lb)	2000	650	(usec)	150			0		100
Differential Temperature										
-2	(degF)	2								
0	Temperature (degF)	20								
-10	Deviation (deg)	90								

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	29.97		Titan_Electric_Cable_Heads-Titan_1-11/16"	1.03	1.69	5.40
			Electric Cable Head with 1" Fishing Neck			
			UW_AGS-UW_AGS_001 (219135)	0.21	1.69	1.00
			Sondex Adapter - GO Box to Sondex Pin			
TEMP	28.57		UW_XTU-UW_XTU_002 (051219)	1.58	1.69	6.50
			Crossover Ultrawire Toolbus to Ultralink			
			UW_PGR-UW_PGR_020 (10013902)	1.92	1.69	9.50
			Production Gamma Ray			
			UW_PRT-PRT_016 (10024052)	1.04	1.69	5.20
			Platinum Resistance Thermometer			
			UW_PRC-DSS_RAC	2.55	2.75	32.00
			5 Arm 2-3/4" Roller Centralizer			
CBLROT	21.54					
CBLTEMP	21.54		UW_RBT-UW_RBT_004 (1066)	9.48	3.13	140.00
WVFS8	21.54		Sondex Ultrawire 3-1/8" Radial Bond Tool			
WVFS7	21.54					
WVFS6	21.54					
WVFS5	21.54					
WVFS4	21.54					
WVFS3	21.54					
WVFS2	21.54		UW_PRC-DSS_RAC	2.55	2.75	32.00
WVFS1	21.54		5 Arm 2-3/4" Roller Centralizer			
WVF3FT	21.54					
WVF5FT	20.54					
CBLTEMP	16.41					
MIT	11.66		UW_MIT-UW_MIT40_027 (218949)	4.54	2.75	65.00
			40 Multifinger Imaging Tool			
			UW_PRC-PRC_057	2.71	2.75	32.00
			4 Arm 2-3/4" Production Roller Centralizer			

CNLSC CNSSC TSTAMP						
	1.53					
	1.12					
	0.00					
UW_CNL-UW_CNL_007 (1007) Sondex Compensated Neutron Logging Tool				6.61	1.69	30.00
Dataset: 0512343474_Anadarko_Wagner 27C-10HZ_RBL_12-09-17.db: field/well/run1/pass1 Total length: 34.22 ft Total weight: 358.60 lb O.D.: 3.13 in						

Calibration Report	
Database File	C:\ProgramData\Warrior\Data\Anadarko_Wagner 27C-10HZ\0512343474_Anadarko_Wagner 27C-10HZ_RBL_12-09-17.db
Dataset Pathname	calreport
Dataset Creation	Sat Dec 09 15:30:46 2017

Compensated Neutron Calibration Report	
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Serial Number:	1007
Tool Model:	UW_CNL_007

Master Calibration	Sun Feb 07 11:32:29 2016		
Detector	Readings		
Short Space	240.97	cps	
Long Space	302.45	cps	
Ratio	Measured	Reference	
	0.8150	Sleeve: 1.0000	
CNRAT Gain K	1.0211		

Before Survey			
Detector	Readings		
Short Space		cps	
Long Space		cps	
	Measured	Reference	
Ratio			

After Survey			
Detector	Readings		
Short Space		cps	
Long Space		cps	
	Measured	Reference	
Ratio			

Multifinger Imaging Tool Calibration Report	
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Serial Number:	218949
Number of Fingers:	40
Tool Model:	UW_MIT40_027

Inclinometer Calibration Report		
Performed:	Mon, Oct, 06 14:03:04 2008	
Calibration Angle:	45	
	Inc X	Inc Y
Vertical:	1996	1984
Finger 1 up:	1780	1738

Finger 31 up:	2235	1756
Finger 21 up:	2216	2228
Finger 11 up:	1736	2196
Sensitivity ratio:	1.0062	
X-axis angle:	131.534	
Deviation const.:	331.322	

# Finger Calibration Report

Performed: Sat Dec 09 10:59:15 2017

Ring size:	4		5		6		7
(in)		Sens		Sens		Sens	
Finger 01:	1388	274.0	1662	302.0	1964	306.0	2270
Finger 02:	1463	266.0	1729	297.0	2026	295.0	2321
Finger 03:	1652	272.0	1924	289.0	2213	282.0	2495
Finger 04:	1648	272.0	1920	287.0	2207	276.0	2483
Finger 05:	1551	255.0	1806	282.0	2088	272.0	2360
Finger 06:	1535	249.0	1784	268.0	2052	268.0	2320
Finger 07:	1365	268.0	1633	293.0	1926	298.0	2224
Finger 08:	1546	251.0	1797	269.0	2066	270.0	2336
Finger 09:	1430	264.0	1694	293.0	1987	288.0	2275
Finger 10:	1488	262.0	1750	284.0	2034	276.0	2310
Finger 11:	1484	258.0	1742	279.0	2021	274.0	2295
Finger 12:	1318	276.0	1594	302.0	1896	303.0	2199
Finger 13:	1580	280.0	1860	291.0	2151	294.0	2445
Finger 14:	1417	284.0	1701	300.0	2001	303.0	2304
Finger 15:	1541	264.0	1805	276.0	2081	280.0	2361
Finger 16:	1395	288.0	1683	295.0	1978	306.0	2284
Finger 17:	1616	276.0	1892	280.0	2172	287.0	2459
Finger 18:	1379	293.0	1672	305.0	1977	322.0	2299
Finger 19:	1636	266.0	1902	258.0	2160	267.0	2427
Finger 20:	1505	269.0	1774	273.0	2047	297.0	2344
Finger 21:	1592	256.0	1848	253.0	2101	273.0	2374
Finger 22:	1520	281.0	1801	278.0	2079	306.0	2385
Finger 23:	1343	280.0	1623	281.0	1904	313.0	2217
Finger 24:	1665	269.0	1934	264.0	2198	289.0	2487
Finger 25:	1361	298.0	1659	299.0	1958	332.0	2290
Finger 26:	1529	290.0	1819	291.0	2110	317.0	2427
Finger 27:	1447	266.0	1713	267.0	1980	290.0	2270
Finger 28:	1638	282.0	1920	280.0	2200	300.0	2500
Finger 29:	1463	279.0	1742	285.0	2027	310.0	2337
Finger 30:	1409	275.0	1684	285.0	1969	312.0	2281
Finger 31:	1519	269.0	1788	275.0	2063	295.0	2358
Finger 32:	1338	266.0	1604	278.0	1882	299.0	2181
Finger 33:	1625	300.0	1925	309.0	2234	323.0	2557
Finger 34:	1541	268.0	1809	279.0	2088	286.0	2374
Finger 35:	1437	269.0	1706	285.0	1991	295.0	2286
Finger 36:	1592	280.0	1872	291.0	2163	297.0	2460
Finger 37:	1603	271.0	1874	286.0	2160	294.0	2454
Finger 38:	1499	271.0	1770	290.0	2060	297.0	2357
Finger 39:	1461	279.0	1740	301.0	2041	306.0	2347
Finger 40:	1597	280.0	1877	303.0	2180	305.0	2485

# Post Survey Calibration Check

Performed: Sat Dec 09 15:26:51 2017

Ring size:	4	Nom.	5	Nom.	6	Nom.	7	Nom.
(in)		wear		wear		wear		wear
Finger 01:	4.002	0.001	4.997	-0.001	6.001	0.000	6.987	-0.007
Finger 02:	3.995	-0.002	5.000	0.000	6.001	0.000	7.004	0.002
Finger 03:	4.001	0.001	4.990	-0.005	5.992	-0.004	6.996	-0.002
Finger 04:	3.998	-0.001	4.989	-0.005	5.998	-0.001	7.011	0.005
Finger 05:	3.991	-0.005	4.999	-0.001	5.989	-0.005	6.989	-0.006
Finger 06:	4.000	0.000	5.005	0.002	6.016	0.008	7.018	0.009
Finger 07:	4.004	0.002	5.011	0.006	6.008	0.004	6.989	-0.005
Finger 08:	3.995	-0.003	4.995	-0.002	5.999	-0.000	6.994	-0.003
Finger 09:	3.993	-0.004	4.991	-0.004	5.990	-0.005	6.987	-0.006
Finger 10:	4.003	0.002	4.997	-0.002	5.992	-0.004	7.000	0.000
Finger 11:	4.002	0.001	5.002	0.001	5.994	-0.003	6.999	-0.000
Finger 12:	4.001	0.000	5.004	0.002	6.001	0.000	7.005	0.003
Finger 13:	3.999	-0.001	4.992	-0.004	5.992	-0.004	6.987	-0.006
Finger 14:	4.003	0.002	4.997	-0.001	5.994	-0.003	7.000	-0.000
Finger 15:	3.997	-0.001	4.996	-0.002	5.990	-0.005	6.999	-0.001



Finger 16:	4.002	0.001	4.984	-0.008	5.988	-0.006	6.997	-0.001
Finger 17:	4.000	0.000	5.000	-0.000	5.995	-0.003	6.996	-0.002
Finger 18:	4.001	0.001	4.998	-0.001	5.996	-0.002	7.008	0.004
Finger 19:	4.003	0.001	4.991	-0.005	5.985	-0.007	6.983	-0.008
Finger 20:	4.002	0.001	4.997	-0.001	5.995	-0.002	6.991	-0.005
Finger 21:	4.001	0.000	4.994	-0.003	5.999	-0.000	6.993	-0.003
Finger 22:	4.002	0.001	5.000	0.000	6.008	0.004	6.996	-0.002
Finger 23:	3.994	-0.003	5.004	0.002	6.007	0.003	6.983	-0.008
Finger 24:	3.999	-0.001	5.005	0.003	6.004	0.002	7.003	0.002
Finger 25:	3.999	-0.000	4.990	-0.005	5.998	-0.001	7.002	0.001
Finger 26:	3.995	-0.003	5.002	0.001	5.998	-0.001	7.000	-0.000
Finger 27:	3.996	-0.002	5.004	0.002	5.996	-0.002	7.004	0.002
Finger 28:	4.001	0.001	4.994	-0.003	5.988	-0.006	6.998	-0.001
Finger 29:	3.995	-0.003	4.995	-0.003	5.992	-0.004	6.995	-0.002
Finger 30:	3.996	-0.002	5.000	-0.000	5.999	-0.000	7.002	0.001
Finger 31:	3.998	-0.001	4.994	-0.003	5.998	-0.001	6.997	-0.001
Finger 32:	4.000	0.000	4.992	-0.004	5.993	-0.004	6.998	-0.001
Finger 33:	3.998	-0.001	4.992	-0.004	6.001	0.000	6.996	-0.002
Finger 34:	4.001	0.000	4.999	-0.000	5.995	-0.002	7.004	0.002
Finger 35:	4.018	0.009	5.001	0.000	6.000	0.000	7.001	0.001
Finger 36:	3.998	-0.001	4.996	-0.002	5.981	-0.009	6.982	-0.009
Finger 37:	4.003	0.002	5.004	0.002	5.999	-0.001	6.993	-0.003
Finger 38:	3.997	-0.001	4.995	-0.003	5.993	-0.004	6.988	-0.006
Finger 39:	4.003	0.001	4.993	-0.004	5.990	-0.005	7.002	0.001
Finger 40:	3.996	-0.002	4.997	-0.002	5.996	-0.002	6.990	-0.005
Average:	4.000	-0.000	4.997	-0.001	5.996	-0.002	6.997	-0.002

Segmented Cement Bond Log Calibration Report						
Serial Number:		1066				
Tool Model:		UW_RBT_004				
Calibration Casing Diameter:		7.000	in			
Calibration Depth:		21.037	ft			
Master Calibration, performed Fri Dec 08 15:20:27 2017:						
	Raw (v)		Calibrated (mv)		Results	
	Zero	Cal	Zero	Cal	Gain	Offset
3FT	0.002	0.580	0.800	62.165	106.226	0.546
5FT	-0.002	0.568	0.800	62.165	107.645	1.063
S1	0.002	0.567	0.000	100.000	177.194	-0.430
S2	0.001	0.588	0.000	100.000	170.284	-0.208
S3	0.002	0.582	0.000	100.000	172.246	-0.296
S4	0.001	0.592	0.000	100.000	169.288	-0.198
S5	0.002	0.586	0.000	100.000	171.292	-0.364
S6	0.001	0.586	0.000	100.000	170.941	-0.248
S7	0.002	0.592	0.000	100.000	169.610	-0.408
S8	0.003	0.573	0.000	100.000	175.223	-0.473

Temperature Calibration Report					
Serial Number:			10024052		
Tool Model:			PRT_016		
Performed:			Sun Oct 11 12:16:39 2015		
Point #	Reading		Reference		
1	12242.00	cps	68.00	degF	
2	18329.00	cps	104.00	degF	
3	29563.00	cps	176.00	degF	
4	41222.00	cps	248.00	degF	
5	52988.00	cps	320.00	degF	
6	58824.00	cps	356.00	degF	
7		cps		degF	
8		cps		degF	
9		cps		degF	
10		cps		degF	

## Gamma Ray Calibration Report

Serial Number:	10013902	
Tool Model:	UW_PGR_020	
Performed:	(Not Performed)	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	1.0000	GAPI/cps



Company	Kerr-McGee Oil & Gas Onshore, L.P.
Well	Wagner 27C-10HZ
Field	Wattenberg
County	Weld
State	Colorado